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Building a bridge to the future: Prospective legitimation in nascent markets

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Abstract

Research Summary: How do new things in nascent markets become legitimate? Existing research points to a process where legitimacy is built by making associations with already legitimate ideas from other domains. In this study, however, we investigate the Internet boom of the 1990s, a nascent setting where something new—engagement metrics used to evaluate firms—gained legitimacy amongst investors, but not by being associated with already legitimate metrics. Using a question-driven mixed-methods approach, we reveal that these new metrics instead gained legitimacy through a novel process we term *prospective legitimation*, where a new basis of legitimacy was constructed by firms linking their otherwise unproven new metrics to future profitability. We discuss how these findings inform research on legitimacy, the development of nascent markets, and future-oriented communications.

Managerial Summary: Firms in nascent markets often face the challenge of convincing investors to buy into something new. This is difficult because new ideas not only have few precedents, but they also have not been around long enough to have proven their value. Our research shows how firms can legitimate their new ideas *prospectively* by using future-oriented communications that link their otherwise unproven new ideas to a desirable future outcome. Through an investigation

of the Internet boom of the 1990s, we demonstrate that Internet firms gradually convinced investors to accept their new engagement metrics (e.g., traffic, visitors, users) before there was any concrete evidence that such metrics actually led to profitability. This study thus enhances our understanding of how new ideas gain traction in nascent markets.

KEYWORDS

firm communication, legitimation processes, mixed-method, nascent markets, question-driven approach

1 | INTRODUCTION

Legitimacy is central to the development of nascent markets (Aldrich & Fiol, 1994). Because so many things are new and unproven (e.g., firms, their products, the criteria to evaluate them, etc.), building legitimacy for such considerations can help stakeholders make sense of this novelty and buy in (Navis & Glynn, 2011; Shen et al., 2021; Zunino et al., 2019). Existing research has shown that new things in nascent markets typically gain legitimacy through associations with already legitimate ideas from other domains (Khaire & Wadhwani, 2010; Navis & Glynn, 2010; Rosa et al., 1999). However, we investigate an empirical case where something new—specifically, the metrics used to evaluate firms—gained legitimacy with investors without going through this associative legitimation process.

Our setting is the Internet boom, the iconic period when an unprecedented number of Internet firms went public between 1995 and 2000 (Cassidy, 2003; Goldfarb & Kirsch, 2019). We begin with three stylized facts (e.g., Goldfarb et al., 2007; Ofek & Richardson, 2003) about this nascent market to motivate our inquiry:

1. In the early stages of the Internet boom, most Internet firms had already started using new *engagement metrics*—novel operational metrics that tried to capture the traffic, visitors, and users on their website (Amigobulls, 2014)—as a way to show their future potential. However, stock market investors largely disregarded these new metrics when evaluating and valuing these new firms (Cutler & Sterne, 2000).
2. By the end of the Internet boom, however, these new engagement metrics had gained legitimacy amongst stock market investors, who were consistently using them in their valuation decisions (Demers & Lev, 2001; Trueman et al., 2000).
3. Yet how these new engagement metrics gained legitimacy amongst investors still remains a puzzle. One explanation could have been that investors saw evidence that these new metrics actually led to profitability, but most Internet firms during this period lacked a financial track record, and these metrics remained notoriously unproven (Goldfarb & Kirsch, 2019). Another explanation could have been that Internet firms or other market participants legitimated these metrics by associating them with already legitimate metrics in other domains (e.g., foot traffic at malls), but there is no historical evidence to suggest that these types of associations were attempted (Cassidy, 2003).

Given these preliminary observations, this empirical setting provides a promising case that might extend our understanding of how new things in nascent markets become legitimate. In particular, our study seeks to answer: How did Internet firms' engagement metrics become legitimate in the eyes of investors?

To answer this, we use a question-driven approach, which has recently gained traction in strategic management research by focusing on "more open-ended research questions concerning relevant phenomena" (Graebner et al., 2017). We implement this approach in three phases. First, we start by broadly investigating what firms—who had the most at stake if investors were to use these new metrics in their valuation decisions—could have been doing to legitimate these new metrics if they were not making associations with other legitimate metrics. To do so, we inductively explore and then content analyze firms' initial public offering (IPO) prospectus filings, which are the primary way firms communicate with stock market investors when seeking financing. Our findings from this first phase showed that alongside using these new engagement metrics, firms were also making what we refer to as *prospective arguments*, or legitimating accounts that tried to explain how these metrics might lead to profitability in the future.

Second, intrigued by the possibility that firms' prospective arguments could have helped legitimate these new metrics over time, we revisited classic research on legitimacy (Suchman, 1995) and institutional theory (Berger & Luckmann, 1967; Zucker, 1987) to develop an explanatory theoretical conjecture (King et al., 2021, p. 468) about how this process could have unfolded. We proposed that firms' prospective arguments about how these new metrics might lead to future profitability could have gradually constructed a new understanding for investors about why these metrics, though still unproven, might one day be valuable. As this understanding became widely accepted by investors, it could have started to serve as a new basis upon which the legitimacy of these new engagement metrics could rest—a process we refer to as *prospective legitimation*.

Third, we then sought preliminary evidence of this prospective legitimation process by conducting a rolling regression event study, which allows us to observe investors' reactions to firm communications "on a moving data window rather than on the full data set" (Fildes et al., 1997). This technique thus enables us to trace changes to legitimacy over time. Our findings support the conjecture that firms' prospective arguments gradually constructed a new understanding about how these new metrics might lead to profitability in the future, which eventually became widely accepted amongst investors. As this unfolded, we demonstrate that this new understanding began to serve as a taken-for-granted basis upon which the legitimacy of these new metrics would ultimately rest. Moreover, we found little support for several alternative processes that could have also contributed to the legitimacy of these new metrics over this period, making prospective legitimation the leading explanation.

This study offers several insights. First, it expands our understanding of legitimation processes in general and in nascent markets settings. Extending existing work that has focused on how new things gain legitimacy through association with preexisting ideas (Navis & Glynn, 2010; Suchman, 1995), our study reveals how a new basis of legitimacy can be constructed prospectively by linking the present to a future that has yet to materialize. This process may be especially important in nascent settings where there are few precedents (Aldrich & Fiol, 1994; Zimmerman & Zeitz, 2002). Second, the process of prospective legitimation offers new insights into recent conversations on market shaping (Gao & McDonald, 2022; Pontikes & Rindova, 2020; Zuzul & Tripsas, 2020) and competitive sensemaking (Cattani

et al., 2018) by demonstrating how collective-level outcomes can be achieved through the distributed, noncoordinated strategic activities of individual firms. Finally, this study adds to the growing interest in future-oriented communications (Kaplan & Orlikowski, 2013) and recent work on how firms try to imagine and legitimate new futures (Augustine et al., 2019) by showing how an already desirable future can be used to legitimate something new and unproven in the present.

2 | EMPIRICAL SETTING—THE INTERNET BOOM

The Internet boom of the late 1990s emerged out of excitement for the "New Economy," the idea that new information technologies related to the Internet would fundamentally change how organizations and individuals would operate in society (Webber, 1993). As is common during the early days of technological innovation, this was an era of ferment (Agarwal & Tripsas, 2008; Kaplan & Tripsas, 2008) and speculation (Goldfarb & Kirsch, 2019), with significant uncertainty surrounding the value that the Internet might generate for firms in the future. This excitement led to an unprecedented number of Internet firms going public, starting with Netscape in 1995, and ending in June 2000 after the bubble burst on March 10 (McCullough, 2015).

This period is also widely regarded as period when Internet-related evaluation criteria—or *engagement metrics*—first started being used by firms. Despite their widespread acceptance today, it is easy to forget how unusual and unproven these new metrics were in the early years of the Internet. While most Business-to-Consumer (B2C) Internet firms, or those that directly deal with end consumers, had started experimenting with these new metrics (Cassidy, 2003), as had prominent analysts like Mary Meeker and Henry Blodget, there was little evidence at this early stage that these novel metrics would actually lead to future profitability. As a result, from investors' standpoint, "it was not merely unknown if and how such metrics would translate into bottom-line profits—it was unknowable" (Goldfarb & Kirsch, 2019, p. 5). Yet despite this early uncertainty, over the next few years these new engagement metrics gained widespread legitimacy amongst stock market investors (Demers & Lev, 2001; Trueman et al., 2000).

To investigate how these new engagement metrics became legitimate in the eyes of investors, we begin by exploring how firms communicated with investors about these new metrics at the time of their IPO.

3 | QUALITATIVE EXPLORATION OF FIRM COMMUNICATIONS TO INVESTORS

3.1 | Firm communications

Firms undertaking an IPO are required to file an S-1 with the Securities and Exchange Commission (SEC), which provides information on the offering, such as company background, potential risk factors, and business strategy. As such, the S-1 is the primary channel for firms to communicate with stock market investors (Hanley & Hoberg, 2010), and investors rely heavily on the S-1 for decision-making (Loughran & McDonald, 2013). Thus, we inductively explore and then content analyze S-1 prospectus filings to

investigate what firms might have been communicating, if anything, to legitimate these new engagement metrics.

3.2 | Sample

We collected the S-1s of all B2C Internet firms that went public on the NASDAQ Stock Market from 1995 through 2000. We focus on B2C firms because these are the firms for which online engagement was central to their monetization strategy and, as a result, were actively using these new engagement metrics (Demers & Lev, 2001; Trueman et al., 2000). To identify B2C firms, we consulted Loughran and Ritter's (2004) list of all Internet IPOs, and obtained firms' S-1 s from the NASDAQ website and through Freedom of Information Act Requests No. 2020-00975 through 2020-00981. We then searched each S-1 to identify Internet-related keywords (e.g., Internet, online, e-commerce) that firms used to describe their businesses. This resulted in a sample of 128 B2C Internet firm IPOs (see Figure 1). Roughly, 75% of these firms were Internet startups, and the rest were established firms pursuing a new online business. Thirty-five percent of the firms were e-commerce (e.g., eToys or E-Loan), 45% were platform (e.g., iVillage or eBay), and 20% categorized themselves as both.

3.3 | Data triangulation

To understand and interpret what firms were communicating, we also collected additional information to help triangulate our findings. First, we referred to several books (e.g., Cassidy, 2003; Goldfarb & Kirsch, 2019; Lewis, 2000) and the most popular white papers on engagement metrics, or e-metrics (Cutler & Sterne, 2000; Sagner, 2001; Sterne, 2003). Second, we collected media articles from 1995 to 2000 that discussed different metric labels

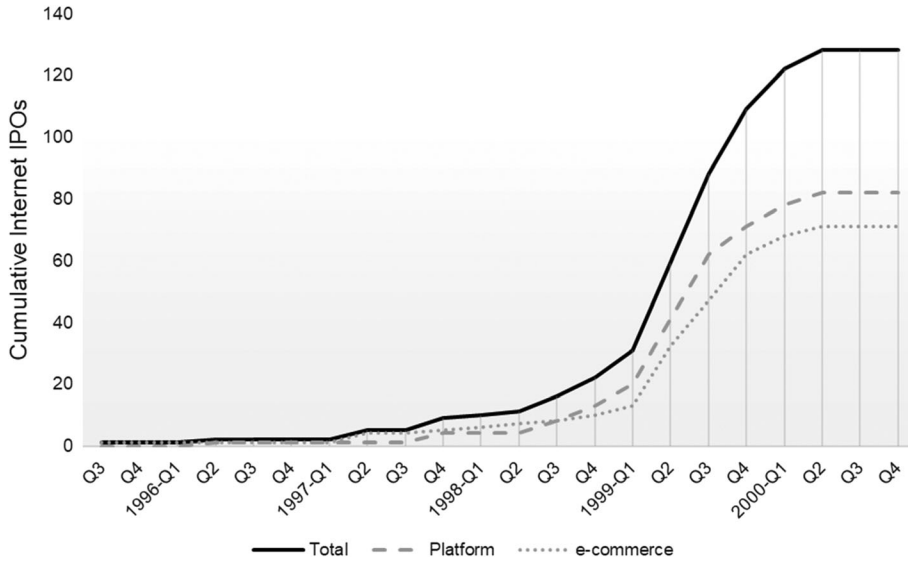

FIGURE 1 The number of B2C Internet initial public offerings (IPOs) from 1995 to 2000 ($N = 128$).

(e.g., hit, traffic, eyeballs, impression, page views, users, clicks, visitors, etc.) from the major newspapers (i.e., *New York Times*, *Wall Street Journal*, and *Washington Post*) and Internet media sites (i.e., TheStreet.com) using the Factiva and Nexis Uni databases. Out of the 1655 articles collected, we read the top 10% of articles sorted by relevance. Third, we conducted two interviews with valuation experts who helped us better understand what types of indicators investors look for from firms going public in nascent settings.

3.4 | Approach

Our inductive analysis and content analysis approach began with an open inquiry into how Internet firms communicate with investors about their new engagement metrics. Our exploration followed an iterative process that allowed us to move back and forth from the S-1s in our sample to our understanding of the empirical setting and existing theories (Van Maanen et al., 2007). This inductive process led to a general consensus regarding multiple codes found in our data, which we then used to content analyze the full sample. Throughout the process, we paid careful attention to best practices in achieving rigor in qualitative analysis (Grodal et al., 2021). This analysis took place in three stages.

3.4.1 | Stage 1—Coding for metric labels

We first sought to identify the labels Internet firms were using to talk about their new engagement metrics. The labels firms use matter, especially in nascent markets (e.g., Zunino et al., 2019). Books and white papers on the Internet boom (e.g., Cutler & Sterne, 2000; Goldfarb & Kirsch, 2019), as well as media articles (Amigobulls, 2014; McCullough, 2015), suggested that firms may have been using a wide range of labels when communicating with investors. At the same time, historical accounts of the period suggested that Internet firms had already converged on a set of labels quite early during this period (e.g., Cassidy, 2003).

To gain insight into whether firms had indeed converged on metrics labels and, if so, which ones, we began by selecting an initial random sample of 30 S-1s to analyze. We noticed that discussions around these engagement metrics were concentrated in the Business Section, which details the firm's background and strategy, and averages about 15 single-spaced pages. As such, the first two authors engaged in open coding of these Business Sections to identify the metrics labels being used. We then paused to compare codes and resolved any discrepancies through discussion. Through this process, we reached a general consensus on three consistently used labels—*traffic, visitors*, and *users*. We used these labels to systematically code the remainder of the sample.

3.4.2 | Stage 2—Coding for how metric labels were used

While coding for metric labels, we observed that firms were talking about these labels in different ways. To explore this further, the first two authors returned to the initial random sample of 30 IPOs and conducted open coding for different ways firms discussed, referred to, or used these three metric labels, continually referring back to books, white papers, and media articles on the topic for data triangulation. We paused to compare codes and resolved

any discrepancies through discussion, ultimately reaching a consensus on two different ways these metric labels were being used: *engagement as a strategy* or *engagement as a measurement*. We used these codes once again to systematically code the remainder of the sample.

3.4.3 | Stage 3—Coding for legitimating accounts

In our final stage, we focused on exploring what firms might have been communicating to investors, if anything, that could have helped these new engagement metrics gain legitimacy amongst investors. We looked for what scholars call legitimating accounts—or communications that try to make an object seem plausible, desirable, or normal to a given audience (Suchman, 1995). Drawing on prior research, we first looked for legitimating accounts that tried to make associations with already legitimate metrics or existing conventions (e.g., Khaire & Wadhwani, 2010; Navis & Glynn, 2010; Rosa et al., 1999; Zunino et al., 2019). However, we found no evidence of such accounts.

We once again returned to our initial random sample of 30 IPOs to search for other forms of legitimating accounts. When we paused to compare codes, we converged on the observation that firms were trying to legitimate these engagement metrics not by pointing to already legitimate metrics in other domains, but rather, by linking them to the potential for profitability in the future. Specifically, they seemed to be communicating a generalized belief that these engagement metrics will eventually lead to profitability in the future through one of two channels: *by selling data to advertisers* or *through the production of network effects*. Since these accounts were trying to legitimate the use of these new metrics by prospectively linking them to some future state, we preliminarily refer to them as prospective arguments. Consistent with prior stages, we used these two codes to systematically code the remainder of the sample.

3.5 | Findings

The process described above produced a total of seven codes—three metric labels, two ways these metric labels were being used, and two legitimating accounts of prospective arguments. Table 1 reports the aggregate summary of our coding across all B2C Internet firms, showing 2116 independent coding instances. Table 2 presents the firm-level averages of these codes, and shows that we identified roughly 16.5 codes per S-1. Figure 2 plots the average usage over time, showing relatively consistent usage of engagement metrics from 1995 through 2000, and a slight decrease in the usage of prospective arguments.

3.5.1 | Engagement metrics and their usage

Firms, on average, discussed new engagement metrics in their Business Section 4.5 times. Firms used the traffic label almost as frequently as they used the visitor and user labels combined (see Table 2). Regardless of the metric label, however, 60% of the time firms used these new engagement metrics in reference to their strategy. For example:

TABLE 1 Aggregate summary of coding ($N = 128$).

	Label			
	Traffic	**Visitor**	**User**	**Total**
Engagement metrics				
Labels reference				
About strategy	259	42	44	345
About measurement	0	86	144	230
Total	259	128	188	575
Prospective arguments				
Channel for future profitability				
About data				916
About network effects				50
Total				966

TABLE 2 Firm-level averages of codes ($N = 128$).

					By type	
	Mean	**SD**	**Min**	**Max**	**e-commerce**	**Platform**
Engagement metrics	**4.5**	**3.4**	**0**	**21**	**3.1**	**5.4**
Label						
Traffic	2.0	2.1	0	9	1.4	2.5
Visitor	1.0	1.3	0	8	0.6	1.2
User	1.5	1.6	0	7	1.1	1.7
Label reference						
About strategy	2.7	2.7	0	13	1.7	3.3
About measurement	1.8	1.8	0	8	1.4	2.1
Prospective arguments	**7.5**	**4.7**	**0**	**21**	**5.5**	**9.0**
Channel for future profitability						
About data	7.2	4.3	0	19	5.5	8.4
About network effects	0.3	0.9	0	4	0.0	0.6

> A key element of the Company's strategy is to generate a high volume of traffic (Amazon.com, IPO May 15, 1997).
>
> We believe that the critical competitive factors in the online home improvement industry are the number of visitors to the Web sites (ImproveNet, IPO March 16, 2000).
>
> Our strategy is designed to...attract repeat users to our website through hyperlinks with strategic partner websites (Musicmaker.com, IPO July 7, 1999).

By using these metrics in this way, firms were emphasizing how central engagement was to their core business operations. Interestingly, we found that when firms were discussing their strategy, the specific metric label seemed to matter less than the more general point they were

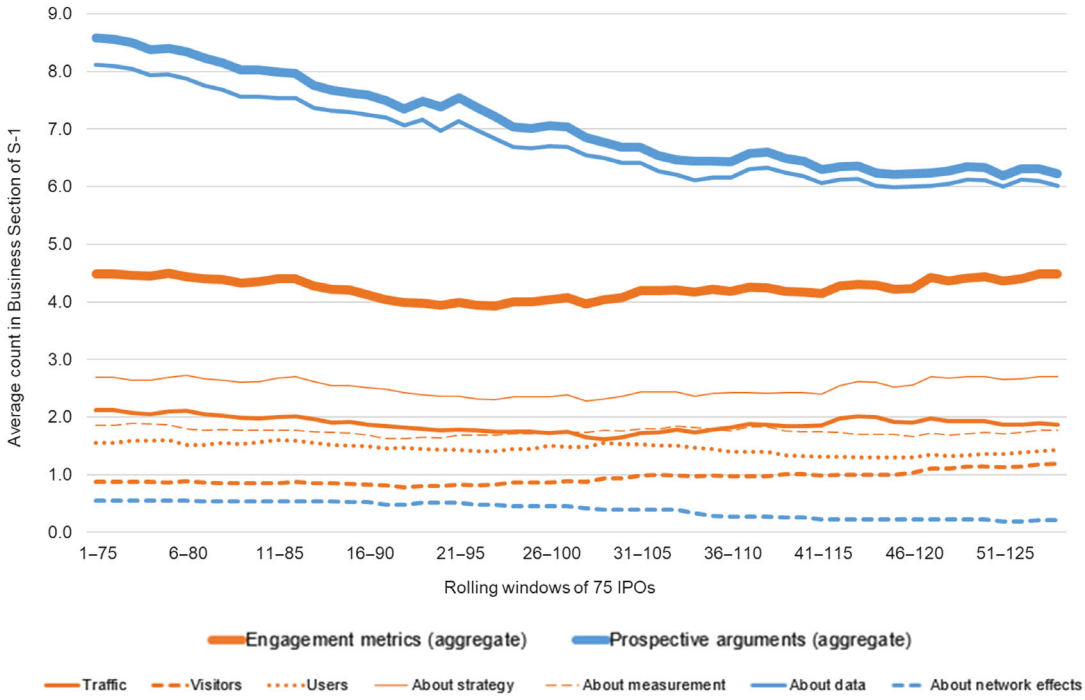

FIGURE 2 Average usage of engagement metrics and prospective arguments, 1995–2000.

making. For example, while Amazon used traffic in the quote above, they also used visitor and user in other sections of their S-1. Similarly, ImproveNet used both visitors and traffic in their S-1, and Musicmaker used traffic and users. In fact, 58% of the firms in our sample used at least two different metric labels.

When firms discussed their engagement as a measurement, however, the traffic label was dropped. Instead, they only appeared to be trying to quantify their visitors and users (see Table 1). For example:

> The Company's network of Web sites attracted on average over 380,000 visitors (RealNetworks, IPO November 21, 1997).
>
> In March 1998, the Company's Web sites served an average daily audience of over 400,000 unique users (Broadcast.com, IPO July 17, 1998).
>
> For the month ended October 31, 1998, iVillage.com had 2.7 million unique visitors (iVillage, IPO March 19, 1999).

Interestingly, even when trying to measure engagement, firms appeared to use visitors and users to refer to the same basic idea (for more illustrative examples, see Table A1). This reinforces the point that these labels were largely used as synonyms to convey a general idea of online engagement rather than a specific form of engagement. This observation also confirms prior anecdotal accounts that suggested firms had already converged on certain metric labels at this point (e.g., Cassidy, 2003), and clarifies which labels they were actually using. As we

elaborate upon later, even though these labels were used interchangeably, we coded them separately to explore if all labels gained legitimacy amongst investors.

Another important observation from these findings is that firms during our analysis period appear to not have discovered or implemented a common measurement for capturing and reporting engagement to investors. RealNetworks, for example, reported their visitors but did not specify a timeframe, whereas Broadcast.com reported average *daily unique users*, and iVillage reported *monthly unique visitors*. This lack of commensurability in engagement metric measurements between firms is stark in our data (see Table A1), reaffirming that what was happening during our analysis period was the legitimation of engagement metrics amongst investors as a label and idea, not as a measurement.

3.5.2 | Prospective arguments

In addition to the use of engagement metrics, we also found substantial use of prospective arguments, in which firms were trying to explain how online engagement might eventually lead to future profitability. Firms articulated an average of 7.5 prospective arguments in their Business Section (see Table 2), and 95% of the time, these arguments centered around the idea that online engagement was going to be valuable because it produced data that ostensibly could be sold to advertisers. This ideathat every click made on their website collected data about the consumer, which could then be sold to advertisers interested in selling ads to targeted consumers—is of course a well-established method of monetizing online engagement today. However, this idea was novel and unproven at the time. For example:

> The Company believes that a successful Internet broadcaster must develop a well-branded, highly-trafficked Web site which offers compelling content...[to] provide an attractive platform for advertisers seeking to target specific users with rich, compelling advertising solutions (Broadcast.com, IPO July 17, 1998).

> Launch collects demographic and music preference information from its users that can be used to target advertising. We believe that the core group of active music consumers aged 12–34, and particularly those in Generation Y, constitutes a valuable demographic segment for advertisers because they tend to be early adopters and significant spenders. Launch seeks to increase its advertising revenues by offering advertisers access to the Generation Y consumer group (Launch Media, IPO April 23, 1999).

> We believe our ability to target specific users, the interactive nature of our website, and the demographic characteristics of our users will be attractive to pharmaceutical, healthcare and other companies that advertise on the Internet. By identifying users interested in a particular health-related topic or who desire to address a particular health condition, we believe we can sell advertising in a highly targeted manner, thereby commanding higher advertising rates (drkoop.com, IPO June 8, 1999).

The first thing to note with these prospective arguments is that while they are similar to firms' discussion of engagement metrics as part of their strategy (described above), they are distinct in that they also contain an explanation that tries to establish a plausible link between the usage of engagement metrics and the future profitability that they believe will follow from

these metrics. For example, compare the earlier quote from Amazon, where they stated that their strategy was "to generate a high volume of traffic," with Broadcast.com, who similarly states that their strategy is to "develop a well-branded, highly-trafficked Web site," but then continues on to explain why they believe this traffic might be valuable because it provides an attractive way for advertisers to target consumers. Thus, what prospective arguments appear to be trying to convey is a new basis of understanding for why investors might view these metrics as legitimate.

Although most of the prospective arguments were about how these new metrics could potentially be valuable because the engagement data they were collecting might eventually be sold to advertisers, 19% of the firms in our sample also made a second type of prospective argument. This argument, which was exclusively made by platform firms, was that engagement might also be valuable in the future because it could lead to network effects. For example:

> The Company believes that this critical mass of buyers, sellers, and items listed for sale creates a cycle that helps eBay to continue to grow its user base. Sellers are attracted to eBay as a result of the large number of potential buyers, and buyers in turn are attracted to eBay by the broad selection of goods listed on eBay. eBay provides buyers and sellers a place to socialize, to discuss topics of common interest and, ultimately, to conduct business in a compelling trading environment, thus fostering a large and growing commerce-oriented online community (eBay, IPO August 19, 1998).

Notice that while this prospective argument implies the future value of online engagement, the prospective value of this engagement is not articulated as concretely as the prior argument about data. Indeed, when firms talked about how online engagement has allowed them to collect data that they believed can be sold to advertisers, the data had already been collected and the potential pathway to profitability seemed plausible. In contrast, when firms talked about how engagement may lead to network effects, the network effects are something that they hoped to eventually achieve if user growth continued, which might then lead to profitability, suggesting that this final link to the future was not as inevitable or clear.

Despite this difference, both of these arguments share one important characteristic—their prospective nature (for more illustrative examples, see Table A2). Indeed, both imply that while online engagement has not yet produced financial success, they project a conviction that it will. For example, Broadcast.com, Launch Media, drkoop.com, and eBay all state that they *believe* that this future will manifest. In this respect, prospective arguments may seem similar to future-oriented storytelling (Garud et al., 2014), framing (Falchetti et al., 2021), or mental time travel (Cattani et al., 2018), all of which have a similar future orientation. Yet, as we elaborate in the discussion, even though these constructs incorporate the future, they focus on imagining and legitimating a new future. In contrast, prospective arguments are distinct in that they are not trying to imagine or legitimate a new future, but rather, use an already desirable future (i.e., profitability) to construct legitimacy for the present (i.e., the usage of engagement metrics).

Firms' usage of prospective arguments, however, raises an important question—if Internet firms were merely arguing that these engagement metrics *could* lead to profitability, but they have yet to demonstrate this concrete connection to *actual* profitability, how could such efforts legitimate these new engagement metrics? In the next section, we investigate this by developing an explanatory conjecture—a plausible theoretical account that "must be subject to further test"

(King et al., 2021, p. 468)—about how prospective arguments could have helped these new engagement metrics gain legitimacy amongst investors.

4 | EXPLANATORY CONJECTURE

We begin by revisiting one of the central tenants of institutional research about how new things (e.g., organizations, activities, or practices) become legitimate over time. Scholars have long recognized that for something new to gain legitimacy, it needs to be aligned with some preexisting cultural belief system (Deephouse & Suchman, 2008). Suchman (1995) refers to this as the development of cognitive comprehensibility, a form of legitimacy that "stems mainly from the availability of cultural models that furnish plausible explanations for the organization and its endeavors. In the presence of such models, organizational activity will prove predictable, meaningful, and inviting; in their absence, activity will collapse" (p. 582). Nascent market scholars have built upon this line of thinking to show how drawing upon existing cultural models can help new things in nascent markets become more comprehensible and, thus, legitimate (Aldrich & Fiol, 1994; Kennedy, 2008; Lounsbury & Glynn, 2001; Navis & Glynn, 2010).

However, when a new activity or practice has few precedents, drawing on preexisting cultural belief systems to build cognitive comprehensibility may be more difficult (Berger & Luckmann, 1967; Zimmerman & Zeitz, 2002), if not undesirable (Rindova & Martins, 2022). In fact, Suchman (1995) speculates that when activities "depart substantially from prior practice," organizations "must *intervene preemptively* in the cultural environment in order to develop bases of support...In this case, managers must go beyond simply selecting among existing cultural beliefs; they must *actively promulgate new explanations* of social reality" (p. 591, italics added). We propose that this may be the role firms' prospective arguments are playing. More specifically, because Internet firms' prospective arguments are trying to build a plausible connection between their new metrics and future profitability, they may be preemptively constructing a new basis of understanding upon which investors may rest their support (e.g., Bitektine & Haack, 2015; Suddaby & Greenwood, 2005). If this were the case, the legitimacy of these new engagement metrics would be based upon a newly constructed and comprehensible belief about the link to future profitability, rather than on an association with similar metrics that have already predicted profitability in other domains.

How might this process unfold? For firms' prospective arguments to serve as a new basis of legitimacy, stock market investors would first need to find these arguments plausible (Navis & Glynn, 2011; Suchman, 1995, p. 584). There are two interrelated reasons why investors in our setting might perceive firms' prospective arguments as plausible. First, investors in this Internet IPO market were actively looking to "make sense" of how to evaluate these new firms, searching for useful indicators (Cattani et al., 2018) that could tell them which firms would grow fast and become profitable (Cassidy, 2003). Because few Internet firms had proven track records, traditional financial indicators (e.g., net income) were of little help and investors were thus open to new possibilities (Trueman et al., 2000). Second, this motivation to find and accept alternative indicators may also have been strengthened by investors' and firms' shared desired for future profitability and their "get big fast" attitude (Cassidy, 2003; Goldfarb et al., 2007), making them more willing to take the leap and buy into a future that had yet to materialize. In this sense, arguments that plausibly linked these new metrics to aligned future interests were likely to be seen as more credible (Tobin & Raymundo, 2009; Wiek et al., 2013).

Investors finding firms' prospective arguments plausible, however, does not necessarily mean that their new engagement metrics had become legitimate. For firms' prospective arguments to build legitimacy—or cognitive comprehensibility—for these new metrics, "a credible *collective* account or rationale" needs to be constructed (Suchman, 1995, p. 575, italics added) to serve as a valid or consensual basis upon which the legitimacy of these new metrics can rest (Bitektine & Haack, 2015). While scholars have demonstrated that collective accounts can be constructed through the coordinated mobilization of multiple parties (Lee et al., 2018), others have suggested that active coordination may not be required so long as many actors express largely the same idea (Kennedy, 2008). Indeed, multiple actors expressing similar accounts have been shown to gradually build comprehensibility for something new over time (Aldrich & Fiol, 1994; Wry et al., 2011). We believe that this more distributed pattern of collective construction is what may be happening in our setting. That is, as more Internet firms go public over time and communicate similar prospective arguments to investors, this prospective linkage between these metrics and future profitability could have started to appear more objective and fact-like (Zucker, 1977).

As this prospective linkage between the present and future gradually gained a fact-like status amongst investors, we propose that it could have begun functioning as a new basis of support upon which the legitimacy of these new engagement metrics could rest. To understand how this might work, consider the paper by Green et al. (2009) on the legitimation of total quality management (TQM) practices. They show that once organizations' legitimating accounts for the cost savings of TQM became widely accepted, this consensually held belief allowed new organizations to adopt TQM without having to justify why it was valuable. Indeed, because this basis of legitimacy had become taken-for-granted, it no longer needed to be stated. In their study, however, the reason this legitimating account could serve as a new basis of legitimacy was that it had already been proven true, as firms had consistently demonstrated that TQM practices actually led to cost savings. As such, TQM practices gained legitimacy because market participants observed historical evidence proving that such practices were actually beneficial, a process we refer to as *retrospective legitimation*. In contrast, what we are proposing here is that firms' prospective arguments—which articulate a plausible link to a desirable future that has yet to materially manifest—might also be able to serve as a new basis of legitimacy, a process we call *prospective legitimation*.

What this conjecture thus suggests is a longitudinal story that gradually unfolds over time, where the prospective arguments deployed by firms going public *early on* help construct this new basis of understanding amongst investors. Then, as this new basis gains wider acceptance and becomes more fact-like amongst investors, the new engagement metrics being used by firms going public *later on* will be seen as increasingly legitimate. To explore if this process does indeed explain how the new engagement metrics gained legitimacy amongst stock market investors, we move to the final step in our question-driven approach and seek to demonstrate reasonable evidence of prospective legitimation in our setting.

5 | EVENT STUDY OF INVESTOR REACTION

5.1 | Data, approach, and sample

To do so, we employ an event study approach, but leverage a rolling regression technique (Smith & Robert Taylor, 2001) that allows us to estimate investors' reactions to firm communications "on a moving data window rather than on the full data set" (Fildes et al., 1997). This technique is an "important

tool in the econometric analysis of time series" (Banerjee et al., 1992, p. 272), and is commonly used in economics and finance (e.g., Braun et al., 1995; Fama & French, 1997). Given the longitudinal nature of our proposed prospective legitimation process, a rolling regression technique offers a novel way to observe changes to legitimacy over time. In particular, if we observe investors reacting more positively to these new metrics over time, then this would suggest that these new metrics were gradually gaining legitimacy with investors. Furthermore, if we observe that investors' widespread acceptance of firms' prospective arguments *preceded* the growing legitimacy of new metrics, then this would offer evidence consistent with our conjecture—that firms' prospective arguments helped construct a new understanding for investors upon which the legitimacy of these new metrics could then rest.

Our sample consists of the 128 Internet firms we content analyzed in Section 3. Our dependent variable is investor reaction to each IPO, and our independent variables are firms' usage of engagement metrics and prospective arguments, as derived from our content analysis. We use a rolling window of 75 IPOs, but our results are not sensitive to window size (see Section 5.6).

5.1.1 | Dependent variable

We evaluate the legitimacy of engagement metrics and prospective arguments by looking at *investor reaction*, measured by taking the percent increase in the stock price on the first day of trading after the IPO ($[\text{price}_{\text{closing}} - \text{price}_{\text{offer}}]/\text{price}_{\text{offer}}$). Offer price was collected from the Securities Data Company (SDC) US New Issues Database, and the closing price was collected from the Center for Research and Security Prices (CRSP) Daily Stock File. This measure, often called underpricing, can represent money left on the table. However, in our setting, a high first-day market premium is referred to as an "Internet pop," and was considered a positive investor reaction for Internet firms during this nascent period (e.g., Krantz, 2013; Vrana & Kaplan, 1998). In fact, Internet firms that did not experience such pop were seen as having failed to capture market interest or demand (Mackintosh, 2021). Thus, we interpret a positive investor reaction to firms' new metrics and/or prospective arguments as evidence that investors view such concepts as legitimate (Martens et al., 2007).

5.1.2 | Independent variables

We construct our two independent variables—firms' *engagement metrics* and *prospective arguments*—based on our content analysis. Recall that we coded each firm's Business Section in their S-1 for every time they discussed either a new engagement metric or articulated a prospective argument. To convert these qualitative findings into a quantitative measure, we determined how many paragraphs in a firm's Business Section contained a discussion of engagement metrics, and how many paragraphs contained a discussion of prospective arguments, and then divided these numbers by the total number of paragraphs in the Business Section. This resulted in a ratio between 0 and 1 that captured the relative space in a firm's Business Section that was dedicated to discussing either new engagement metrics or prospective arguments.

We use a paragraph-level ratio, which has been used by others (e.g., Harmon, 2019), for two reasons. First, 95% of the time we coded an engagement metric or prospective argument, the code appeared only once within a given paragraph. Thus, rarely did a firm discuss engagement metrics in two entirely different ways or make two separate prospective arguments in a single paragraph. Second, paragraphs are the primary way firms delineate ideas in their IPO prospectus. As such, the way firms structured their communication in these IPO filings made a

paragraph-level ratio measure the most appropriate way to capture the meaning firms were conveying. Our results are not sensitive to alternative measurements (see Section 5.6).

Finally, for our main rolling regression analysis, we did not disaggregate our engagement metrics and prospective arguments into their subcodes (see Table 1), since most firms used metric labels (i.e., traffic, visitors, and users) interchangeably, and both variants of prospective arguments had similar structures for explaining the future value of these metrics. However, we explore potential differences across these subcategories in Section 5.4.

5.1.3 | Control variables

Firm-related factors. First, we controlled for the traditional financial metrics that can influence investor reactions during an IPO (e.g., Dalton et al., 2003). We controlled for firm performance by using logged *revenue* for the year before the offer date, and logged *total assets* prior to the IPO. These variables were collected from the SDC New Issues Database and the S-1.

Second, we controlled for signals of firm quality. We controlled for *firm age* by taking the log value of the difference between the founding and filing date. We controlled for *venture capital reputation* by using the Lee-Pollock-Jin Venture Capital Reputation Index (Lee et al., 2011) to calculate the average reputation for venture capital firms involved in a focal IPO. We controlled for *lead underwriter reputation* (Pollock, 2004) using data from the SDC New Issues Database and Loughran and Ritter's (2004) IPO underwriter reputation ranking. We controlled for *share turnover* on the day of the IPO, since it is an indicator of investors' interest. Share turnover was calculated by dividing the number of shares traded by the number of shares offered on the day of the IPO (Pollock & Rindova, 2003). This was collected from the S-1 and CRSP Daily Stock File.

Third, we controlled for the type of Internet firm. We created a dummy variable *e-commerce* and *platform*. We also created a dummy variable for whether the firm stated the intention to *serve businesses* alongside their primary consumer-facing strategy. We collected this information from each firm's S-1.

Fourth, we controlled for other linguistic factors known to influence IPO outcomes. Following prior studies (Loughran & McDonald, 2013), we controlled for *word count* in the S-1. We also controlled for *sentiment* using the Linguistic Inquiry and Word Count (LIWC) dictionary of "tone" (Pennebaker et al., 2007). Given the prospective nature of our theory, we controlled for *future-oriented language* by using the LIWC "future" dictionary, and *uncertainty* using the Financial Sentiments Dictionary created by Loughran and McDonald (2011).

Finally, since stories about growth potential could be correlated with a firm's prospective arguments, but also played an important role in generating excitement for Internet firms (Shiller, 2000), we controlled for the *engagement growth rate* communicated by firms. Firms typically offered a story about engagement growth by sharing the number of users today and an estimated number of users in the future. Using this information, we calculated and controlled for the annualized estimated growth rate of users communicated by each firm.

Market-related factors. Consistent with IPO research about Internet firms (Martens et al., 2007), we controlled for *IPO hotness* by measuring the number of IPOs issued in the 7 days prior to the focal firm's IPO date. Since media coverage of past IPOs can shape investors' evaluations (Pollock & Rindova, 2003), we controlled for *media attention* by counting the average number of media articles that covered the 30 IPOs prior to the focal IPO. Articles were collected from the Major Newspaper database on LexisNexis. Finally, since analysts played an important role in the Internet boom (Beunza & Garud, 2007), we controlled for analysts' usage of engagement metrics to address the possibility that analysts were also contributing to the legitimacy of these new metrics. We collected

all initiating analyst reports after each IPO from Thomson One. We then constructed a word dictionary with three words—traffic*, visitor*, user*—to calculate the number of times an engagement metric was used in each report. Using this information, we controlled for the log sum of *analyst metrics usage* of all initiating analyst reports released during the 90-day timeframe prior to each focal IPO.

5.2 | Descriptive statistics

On average, 6% of the paragraphs in firms' Business Section discussed new engagement metrics, and 10% articulated prospective arguments. Metrics usage remained stable at 6% throughout the period, while prospective argument usage dropped slightly over the period, from 12% to 8%, which is in line with Figure 2 and consistent with the idea that this new understanding was becoming institutionalized over time and, thus, required less justification (Green et al., 2009). The average investor reaction, or "pop," was 69% (Descriptive statistics can be found in Table A3).

5.3 | Main results

We now turn to our rolling regression results. Figure 3 plots the beta coefficients and 95% confidence intervals for our two independent variables, from each of the 54 rolling regression windows across our sample. The labels on the *x*-axis refer to the IPOs in that regression window (e.g., 1–75 includes the 1st through 75th IPO to occur in our sample, 2–76 includes the 2nd through 76th to occur, etc.). This figure thus displays how investors' reactions to firms' IPO communications changed over time.

This analysis first shows that these new engagement metrics did, in fact, become legitimate over time in the eyes of stock market investors. Depicted by the orange line, we can see that in the early stage of this nascent period, investors were not reacting (positively or negatively) to

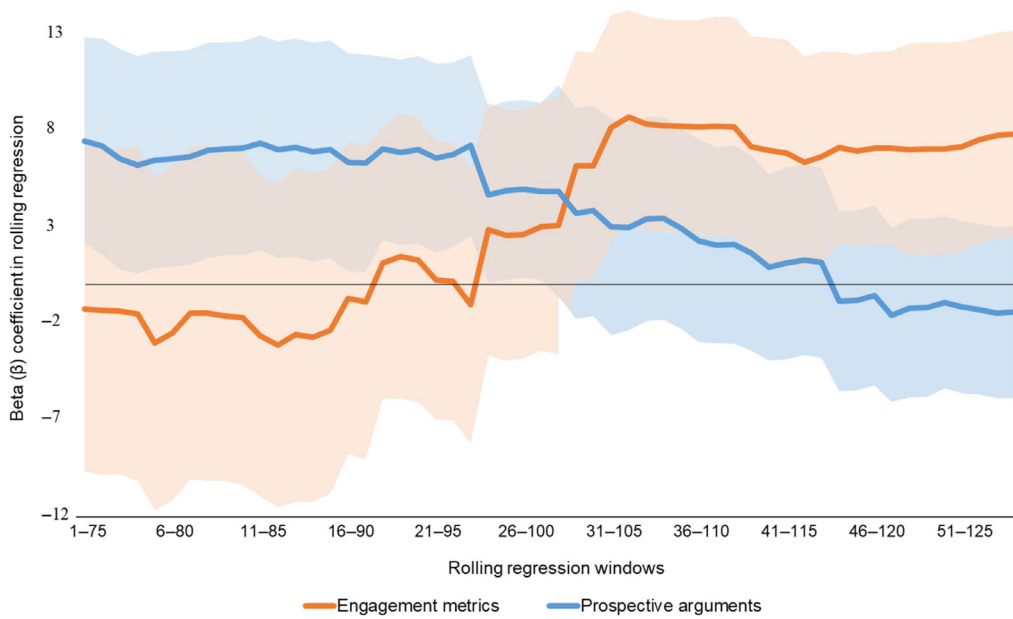

FIGURE 3 Rolling regression predicting investor reaction.

these engagement metrics when firms used them in their IPO communications. However, starting in roughly January 1999 (the mid-point IPO of window labeled 11–85), these metrics gradually started to gain legitimacy, as observed by the increasingly positive reaction. By July 1999 (the mid-point IPO of window labeled 31–105), these metrics had become legitimate with investors, evidenced by the fact that they were positively reacting to their usage.

To investigate whether firms' prospective arguments help explain why these metrics gained legitimacy, we examine the blue line in the same figure. We see that for firms going public early on in this nascent period, even though investors were not paying attention to the usage of engagement metrics, they were reacting positively to firms' prospective arguments. However, starting in June 1999 (the mid-point IPO of window labeled 23–97), around the same time the beta coefficient for engagement metrics rose above zero, investors' positive reaction towards these prospective arguments started to decline, eventually dropping below zero in October 1999 and continuing to decline through the remainder of our analysis period.

We argue that this pattern of evidence is consistent with our explanatory conjecture. In particular, we proposed that for firms' prospective arguments to serve as a new basis of legitimacy, stock market investors would first need to find these arguments plausible, which we observe early on by investors' positive reaction to prospective arguments. We further proposed that as firms continued going public and expressed similar prospective arguments, these legitimating accounts would gradually become taken-for-granted amongst investors, and begin serving as a new understanding upon which the legitimacy of these new engagement metrics could rest. This, we argue, is consistent with the observed shift—or cross-over of the orange and blue lines in Figure 3—in investors' reaction over time. Specifically, as investors increasingly took for granted firms' prospective arguments and came to believe that they simply "went without saying" (Green et al., 2009; Harmon, 2019), they gradually stopped reacting positively towards them. As this new basis of legitimacy built from prospective arguments became more fact-like, investors increasingly viewed the engagement metrics as legitimate and, in turn, started reacting more positively to them.

Taken together, the results of this analysis suggest that over time, these new engagement metrics gradually gained legitimacy amongst investors as Internet firms, in a collective yet distributed fashion, continued going public and deployed similar prospective arguments, which constructed a new understanding of legitimacy upon which these new metrics could rest. In the remainder of this section, we dig deeper into these findings by decomposing our engagement metric and prospective argument constructs into their subcategories, exploring other possible processes contributing to the legitimacy of these new metrics, and offering tests of robustness.

5.4 | Decomposition of rolling regression

Our main analysis combined all subcodes of engagement metrics and prospective arguments from (Table 1). In this section, we decompose these variables to explore if different metric labels became equally legitimate, and if both types of prospective arguments played a similar role in this process. To begin, we find that all engagement metric types largely followed the same pattern, with traffic gaining legitimacy first, followed by visitors and users (see Figure A1a). When decomposing this variable by how firms used these metrics, we found that discussing these metrics as part of their strategy gained legitimacy earlier than attempts to offer a measurement of engagement (see Figure A1b).

With respect to firms' prospective arguments, we find the prospective argument about selling data to advertisers followed the same pattern as reported in our primary analysis, but the prospective argument about network effects never reached significance at canonical levels (see Figure A1c). One explanation for this could be that because the persuasiveness of prospective arguments depends on how plausible the link between the present and future is to the audience, it is possible that the link between network effects and profitability was seen as less plausible to investors. Indeed, these arguments just mentioned network effects as a potential source of value, but did not articulate a clear pathway to profitability. Another explanation could be that the excitement during the late 1990s centered mostly on the ability of firms to collect engagement data and sell it to advertisers (Cutler & Sterne, 2000), suggesting that the argument for network effects may have become more important amongst investors after the Internet boom period.

5.5 | Other legitimation processes

Our findings show that firms' prospective arguments contributed to the legitimation of new engagement metrics, but we acknowledge that we cannot perfectly rule out other processes that may have *also* contributed to these new metrics gaining legitimacy. While the presence of other processes does not invalidate our findings, as multiple processes could be operating simultaneously, evidence of other processes at work could diminish the relative importance of our contribution. Thus, we explore two potential processes in this section.

One process that might also be occurring is that these new engagement metrics gained legitimacy because they actually started to lead to future profitability, a process we have called retrospective legitimation. For example, imagine investors saw that the firms who talked most about engagement metrics during their IPO generated the most revenue the next year. Observing this would provide investors retrospective evidence that these metrics are indeed legitimate. To explore this possibility, we collected revenue in the year following each IPO from firms' subsequent SEC filings, and conducted the same rolling regression analysis with revenue in the year *after* their IPO as the dependent variable. If we find a positive and significant coefficient at any point during this period, then it would suggest that a firm's usage of engagement metrics predicted its future revenue, and that this process may be operative. However, we find no evidence of this process at work during our sample period (see Figure A2).

A second process that could be at work is that analysts might have helped these metrics become legitimate with investors. There is anecdotal evidence that analysts, such as Mary Meeker and Henry Blodget, gained an almost celebrity-like status by making bold predictions about the future growth of Internet firms. Although analysts certainly played a role in the Internet boom (Beunza & Garud, 2007), the question here is whether they helped legitimate these new engagement metrics for investors. To explore this, we again conducted a rolling regression analysis and plotted the effects of engagement metrics used by firms alongside the effects of engagement metrics used by analysts, which was a control variable in our main analysis (*analyst metrics usage*). If we observe investors reacting positively to analysts' use of metrics, then this might suggest that analysts helped these new metrics gain legitimacy amongst investors. However, we found no evidence of this (see Figure A3), suggesting that analysts appeared not to have played a significant role in legitimating these new metrics.

5.6 | Robustness

In this section, we examine if our findings are an artifact of measurement or design decisions. First, we consider alternative ways to operationalize our core constructs. In Section 5.1.2, we argued that a paragraph-level ratio was the most appropriate way to measure engagement metrics and prospective arguments. However, one could also use other approaches, such as (1) the raw count of the metrics/prospective arguments that were mentioned, or (2) the ratio of the raw count of the metrics/prospective arguments that were mentioned divided by the total number of words in the section. Empirically, these alternatives are highly correlated with our preferred measurement (between 0.82 and 0.87) and produce similar results (see Figure A4).

Second, while the rolling regression technique has been used for decades in economics and finance (e.g., Braun et al., 1995; Fama & French, 1997), it is relatively new in strategic management research. As such, one might wonder why we used a window of 75 IPOs, and whether alternative windows affect our findings. Prior work has used windows of anywhere between 30 (Chen et al., 2012) and 100 (Fildes et al., 1997), depending on sample size, and how many control variables were included. Larger sample sizes allow for larger windows, and fewer controls allow for smaller windows. Given our sample size of 128 and a fair number of controls, our design fell in the middle of these parameters, leading us to believe that a window in the middle of what existing research has used was appropriate. However, using windows of 50 and 100 IPOs produces consistent results (see Figure A5).

Third, we also tested our results after removing IPOs with an investor reaction of two standard deviations above or below the mean, and the results look similar, suggesting that outliers are an unlikely to explain our findings. Fourth, since the rolling regression technique treats IPO entry order as the temporal dimension, one might wonder whether there is a corresponding pattern of findings when using calendar dates as the temporal dimension. To explore this, we conducted a similar analysis using binned windows of time instead of IPO entry order (see Figure A6), and a similar pattern emerges.

6 | EPILOGUE—INTERNET FIRMS TODAY

Today, the legitimacy of engagement metrics is widely acknowledged. Indeed, Internet firms' primary operating metrics now revolve around their online users, and investors take for granted that these metrics are the primary leading indicators of future revenue (Amigobulls, 2014). Given the time that has passed since our study's analysis period, one might wonder how these engagement metrics and prospective arguments have evolved. We examined the S-1 prospectuses of the 56 B2C Internet firms that went public from 2001 through 2018 to find out. Two findings emerged.

First, we observed that the use of these engagement metrics has persisted, but has shifted towards firms trying to find more consistent ways of measurement. Recall that during the 1990s, firms were experimenting with different measurements (e.g., daily unique users, and monthly unique visitors), whereas others were just using the metrics labels (e.g., traffic, visitors, and users). Today, firms have largely gravitated towards using two measurements—daily active users (DAU) and monthly active users (MAU)—to measure their engagement. These measurements are still not uniform though, as firms continue to modify the way they measure engagement when they need to portray their operations in a more positive light. For example, when

Twitter noticed a decline in their DAU, instead of explaining this decline to investors, they introduced a new metric called monetizable DAU, or mDAU (Hutchenson, 2019). Recognizing how these changes make comparability across firms challenging, the SEC issued guidance in 2020 for how firms should define and use these metrics in their financials (Proskauer, 2020).

Second, we observed that firms' prospective arguments linking these metrics to future profitability have entirely vanished and, instead, have been replaced with legitimating accounts for how online engagement is *actually* leading to profitability. For example, in their S-1 filing in 2012, Facebook explains this linkage using the present rather than future tense:

> Facebook's combination of reach, relevance, social context, and engagement gives advertisers enhanced opportunities to generate brand awareness and affiliation, while also creating new ways to generate near-term demand for their products from consumers likely to have purchase intent. In December 2011, an advertiser could reach an estimated audience of more than 65 million U.S. users in a typical day on Facebook (Facebook, IPO May 18, 2012).

The disappearance of the prospective nature of these legitimating accounts offers additional confirmation of how legitimate these metrics have become, as well as evidence that the prospective arguments made by firms during our analysis period eventually manifested as true. Although this outcome was by no means inevitable, these engagement metrics today now actually lead to profitability, and so it makes sense that firms have shifted and begun using these retrospective accounts in lieu of the prospective ones found in this study.

7 | DISCUSSION

How do new things in nascent markets become legitimate? Taking a question-driven approach, we investigated how the new engagement metrics used by Internet firms gained legitimacy amongst investors during the Internet boom of the late 1990s. Our findings revealed a novel process of prospective legitimation, where firms' arguments about how these new metrics could lead to future profitability gradually constructed a new understanding for investors over time. As this understanding became taken-for-granted amongst investors, it began to serve as a cognitive basis upon which the legitimacy of these new metrics could rest. These findings thus highlight the possibility that new things in nascent markets can sometimes become prospectively legitimated by constructing a link to a commonly desired future. We discuss the implications of this insight for how legitimacy is constructed, the development of nascent markets, and future-oriented communications. We close by discussing how adopting a question-driven approach led to insights that would have been difficult to uncover otherwise.

7.1 | How new things become legitimate

Scholars define legitimacy as a "generalized perception or assumption" that an object is "desirable, proper, or appropriate" (Suchman, 1995, p. 574). When something new is introduced, especially in nascent markets, this "generalized perception or assumption" may not yet exist,

and thus needs to be developed to serve as a basis of legitimacy (Aldrich & Fiol, 1994). But, how does a new basis of legitimacy develop?

One option, of course, is to wait for evidence to accumulate that demonstrates the actual usefulness of an object, a process we call *retrospective legitimation* (see Figure 4a). Consider Rao's (2002) study that showed how the automobile gained legitimacy as a means of transportation by auto clubs conducting "reliability contests to demonstrate the dependability of the car" (p. 307). In other words, once consumers were able to observe the actual reliability of the automobile, these reliability claims became legitimate. This retrospective process has also been used to explain how new metrics in the biotech industry became legitimate. Pukthuanthong (2006), for example, showed that the legitimacy of certain metrics slowly grew for investors over a 20-year period as they were able to consistently observe that these metrics actually predicted financial success (see also Green et al., 2009). In this sense, for legitimacy to build through retrospective legitimation, historical evidence needs to demonstrate to audience members the consistent usefulness of that object (e.g., Kelley, 1973; Tversky & Kahneman, 1980). However, such historical evidence sometimes does not exist or is expected to take too long to develop, and so a second legitimation process often takes shape.

This second process is where legitimacy is constructed by making associations with existing cultural belief systems, oftentimes in adjacent domains, a process we call *associative legitimation* (see Figure 4b). Instead of relying on the historical performance of the focal object, as with retrospective legitimation, this process looks for a basis of legitimacy in the historical performance of an object similar to the focal one, but from a different domain. If a comparable object has already gained legitimacy in another setting, then the focal object can be connected to that already established basis of legitimacy and import it into its space (e.g., Etzion & Ferraro, 2010; Martens et al., 2007; Navis & Glynn, 2010; Rosa et al., 1999; Zunino et al., 2019). Khaire and Wadhwani (2010), for instance, showed that the metrics introduced and eventually legitimated in the nascent modern Indian art market "were adapted from conventions used in judging modernist works of Western artists" (p. 1282). In this way, the legitimacy of the modern Indian art metrics was imported from a well-established market, where similar metrics were already understood and used reliably.

In our study, however, these two legitimation processes do not seem to be the primary explanation for how Internet firms' new engagement metrics gained legitimacy amongst investors. Indeed, we found no evidence that these new engagement metrics actually led to higher revenue during this time period (see Section 5.5 and Figure A2), nor did we find evidence of Internet firms making associations between the new engagement metrics and existing metrics (e.g., foot traffic at malls). Instead, our findings revealed a third process whereby legitimacy was

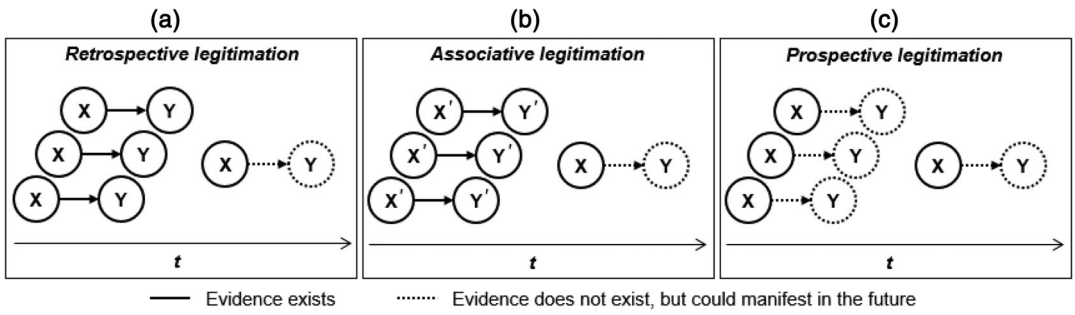

FIGURE 4 Processes of legitimation.

built upon legitimating accounts that link the present object to a shared and desirable future outcome, a process we call *prospective legitimation* (see Figure 4c).

What is novel about this process is that legitimacy is developed *before* consistent material evidence has emerged to demonstrate the usefulness of the focal object or an object similar to it. Consider our empirical setting. With retrospective legitimation, the legitimacy of these new engagement metrics would have stemmed from the accumulation of evidence demonstrating the usefulness of these metrics in forecasting Internet firms' actual profitability. With associative legitimation, the legitimacy would have stemmed from the accumulation of evidence showing the usefulness of a similar metric in another domain. In both of these processes, however, it would have required at least some evidence that this metric, or one similar to it, has been reliably used before. In contrast, with prospective legitimation, the basis of legitimacy is the newly constructed and *shared belief* that this new metric will *plausibly* lead to future profitability.

We believe this insight expands our understanding of legitimacy and legitimation processes more generally (Suchman, 1995). In particular, research on legitimacy (Aldrich & Fiol, 1994; Deephouse & Suchman, 2008) and institutional or cultural entrepreneurship (David et al., 2013; Lounsbury & Glynn, 2001; Navis & Glynn, 2010) have largely conceptualized legitimacy as a perception that emerges from an established meaning system. Our findings demonstrate that legitimacy can also emerge from prospectively constructing it with plausible arguments that link the present to the future over time. This new perspective on legitimacy generates several potentially interesting pathways for future research.

One interesting direction would be to explore how prospectively legitimated ideas may differ from those legitimated through a retrospective or associative process. For example, prospective accounts may attract more risk-seeking or novice audiences, potentially leading to bubble-like episodes (Goldfarb & Kirsch, 2019). It would also be interesting to explore whether ideas legitimated prospectively are more fragile than those developed through the other two processes. Indeed, if contradictory evidence emerges, it may weaken or even crumble the prospectively constructed basis of legitimacy (Lounsbury & Rao, 2004; Rhee et al., 2017). Moreover, future research could investigate the conditions under which prospective legitimation may emerge. For example, we believe that prospective legitimation processes are most likely to work when speakers have a strong motivation to sell the future to a given audience, and the audience has a strong motivation to take the leap and is willing to believe in that future without concrete evidence. These conditions are worth exploring to better understand the generalizability of our findings. Regardless, how the legitimacy of an object originally developed—whether through retrospective, associative, or prospective processes—is a topic that warrants further scholarly attention.

7.2 | The development of nascent markets

We contend that the prospective legitimation process is particularly relevant in nascent market settings. Indeed, when market categories are unclear, products remain unproven, and future profitability is unknown (Hargadon & Douglas, 2001; Santos & Eisenhardt, 2009), firms and investors find themselves in a bind—investors would like to see signs of growth and financial success before investing, whereas firms often need that investment to grow and demonstrate that success (Aldrich & Fiol, 1994). Thus far, the associative legitimation process, whereby firms draw on already legitimate belief systems to garner resources (Khaire & Wadhwani, 2010; Martens et al., 2007; Navis & Glynn, 2010), has been the main way to overcome this bind. Our study points to prospective legitimation as an important alternative.

In particular, the prospective legitimation process treats uncertainty about the future not as a limiting factor, but as an opportunity for firms to construct a new understanding that could become a new basis of legitimacy. Indeed, most Internet firms in our setting had not yet turned a profit, but they all were trying to explain to investors how their use of engagement metrics could plausibly lead to profitability. While such prospective efforts were successful in our study, it is important to acknowledge that this may not be the case for all objects (e.g., products, labels, practices, etc.) or for all stakeholders (e.g., analysts, the media, customers, etc.) in nascent market settings. For instance, metrics are critical for investors and analysts in nascent industries (Beunza & Garud, 2007; Shen et al., 2021), but they may matter less to the media or customers. Moreover, although investors and firms in our setting shared a strong desire for the outcome (i.e., profitability), the persuasiveness of prospective arguments may be reduced when an outcome is not commonly desired or shared by firms and stakeholders alike (Soublière & Lockwood, 2022). Future work could thus explore other nascent market elements and audiences to better understand when prospective legitimation is most effective.

We also believe our findings extend several important conversations regarding the development of nascent markets. First, this study shifts the focus in nascent market settings from emergence and adoption processes (Grodal et al., 2015; Suarez et al., 2015) to legitimation processes. How new categories and their associated labels come about and are adopted by firms is important (e.g., Granqvist et al., 2013; Zunino et al., 2019), but equally critical is the process by which these elements gain legitimacy with key stakeholders (e.g., Navis & Glynn, 2010; Wry et al., 2011). For nascent markets to develop and grow, customers need to see new products as legitimate (Rosa et al., 1999) and investors need to know how to evaluate firms' potential (Shen et al., 2021). However, we have limited empirical evidence on how an already adopted practice or activity by firms becomes legitimate amongst different stakeholders over time. By focusing on how the new metrics that Internet firms had already adopted gain legitimacy amongst investors, this study takes an important step towards a more comprehensive perspective on how nascent markets develop.

Second, our findings also show that coordination amongst multiple actors is not the only way collective outcomes are accomplished in nascent settings. Prior work has demonstrated that nascent market outcomes are often generated through strategic and coordinated efforts, whether by many actors (Gao & McDonald, 2022; Grodal, 2018; Wry et al., 2011) or just a few (Navis & Glynn, 2010; Santos & Eisenhardt, 2009). In contrast, our rolling regression results portray a collective yet distributed legitimation process in which the prospective arguments of Internet firms going public early on gradually constructed a new basis of legitimacy that investors could use to evaluate engagement metrics used by firms going public later. We believe these findings are more consistent with research that shows cognitive comprehensibility can gradually emerge from firms' consistent actions, even if those firms are not deliberately coordinating with one another (e.g., Kennedy, 2008; Ruef & Patterson, 2009). We suggest that understanding this distributed yet still consequential outcome of firms' collective actions, alongside more strategic market shaping efforts, is needed to advance the nascent markets scholarship.

Finally, our study is also one of the first to examine how new evaluation criteria in a nascent market gain legitimacy (cf. Khaire & Wadhwani, 2010). Prior studies have explored how other elements in nascent settings gain legitimacy, such as market categories (Kennedy, 2008; Navis & Glynn, 2010) and identities (Martens et al., 2007; Wry et al., 2011), but we believe that the omission of evaluation criteria is an important oversight. Indeed, investors need new evaluation criteria to properly assess novel ventures. Moreover, although scholars have explored where evaluation criteria come from, such explanations point to field-level institutions that award certifications

(Rao, 1994; Sine et al., 2007) and set standards (Haack & Rasche, 2021; Lee & Sine, 2012), or third-party intermediaries, such as critics (Hsu et al., 2012) and analysts (Benner & Ranganathan, 2017). In contrast, our study shows how firms themselves, as they enter the market and seek financing, can actually help legitimate the very criteria by which investors eventually evaluate them.

7.3 | Future-oriented communications

Our findings also contribute to a growing conversation on the role of future-oriented communications in strategic management. Researchers are increasingly recognizing the importance of the future when organizations are making decisions and communicating with stakeholders (Kaplan & Orlikowski, 2013), and several forms of future-orientated communication have been proposed. For example, Garud et al. (2014) have theorized about projective stories, which plot "elements into a compelling chronological account that invites stakeholders to imagine future venture possibilities" (p. 1479). Cattani et al. (2018) have similarly highlighted the importance of mental time travel, or "the ability to project possibilities into an unknown future" (p. 639). The prospective arguments found in this study are similar to these constructs in many respects: they focus on the future, project possibilities, and establish expectations for what might unfold over time.

However, prospective arguments also differ from existing constructs in several ways that enhance our understanding of future-orientated communications. For instance, while mental time travel is largely about projecting future possibilities and predicting "choice points...in which multiple outcomes are possible" (Baumeister et al., 2016, p. 11), prospective arguments focus on developing an *explanatory link* between the present concrete circumstances and a particular outcome (e.g., profitability). In this way, prospective arguments are as much about the present as they are about the future, as their effectiveness lies in a firm's ability to develop a plausible link that connects the two. When considered in this light, prospective arguments are more akin to projective stories. However, projective stories seek to connect the present with a future event (e.g., a liquidity event) by providing a concrete chronological account of the steps involved, whereas the prospective arguments in our study were more abstract and theoretical in nature, seeking to formulate a logical explanation for how the usage of these new engagement metrics might eventually lead to profitability. In this regard, prospective arguments may be best thought of as one-way firms execute or engage in what scholars refer to as theorization, or the "development and specification of abstract categories and the formulation of patterned relationships such as chains of cause and effect" (Strang & Meyer, 1993, p. 492).

This study also goes beyond simply documenting firms' prospective arguments as a form of future orientation by also demonstrating the downstream implications these efforts can have in the overall process of prospective legitimation. Scholars have only recently started to explore how firms try to construct and legitimate a new future (Augustine et al., 2019; Pontikes & Rindova, 2020; Verhaal & Pontikes, 2022), and our study extends this emerging conversation in two ways.

First, while the object of legitimation in existing work is the future imaginaries (Augustine et al., 2019), the object of legitimation in our study is located in the present. More specifically, the process of prospective legitimation focuses on how a link to an already desirable future (i.e., profitability) is used to legitimate an object in the present (i.e., the usage of new engagement metrics). In this sense, firms are using a future outcome as a strategic resource to legitimate their current day, unproven activities. We think that such efforts are prevalent in organizational settings. For example, firms regularly offer prospective arguments explaining how a new activity they have adopted (e.g., using new ESG metrics) could plausibly lead to a

desirable future outcome shared by a variety of stakeholders (e.g., reducing the risk of global warming), even though concrete evidence between this specific practice and the future outcome has not fully manifested. In this regard, future research might explore other ways firms bootstrap the legitimacy of their present activities with links to a desirable shared future.

Second, our study also demonstrates how both the sensegiving of firms *and* the sensemaking of investors are important to future-oriented legitimation processes. Scholars have argued that evaluators' goals and values are consequential to understanding how legitimacy is acquired (Johnson et al., 2006; Pontikes & Kim, 2017; Schoon, 2022), and scholars have called for more work to explore how audience sensemaking plays an important role in the introduction of novelty (Cattani et al., 2018; Falchetti et al., 2021; Rindova & Courtney, 2020). In our study, we analyzed not only the prospective arguments deployed by Internet firms, but also investors' reactions as evidence that such arguments had become accepted and were serving as a new basis of legitimacy. Our study thus points to a more interactive meaning-making process between firms and investors that constructed, over time, the "sociocognitive foundation" upon which something new could be legitimated (Rindova & Martins, 2022, p. 219).

7.4 | The value of using a question-driven approach

Strategic management scholars have argued for the potential value of using a question-driven approach, particularly in situations "when exploring an empirical observation that conflicts with prior theory" (Graebner et al., 2017, p. 3). In this study, we encountered a case where prior theory did not apply—where Internet firms' new metrics gained legitimacy, but not through associations being made with prior conventions. A question-driven approach gave us flexibility in seeking an alternative explanation. This started with a qualitative exploration of firm communications to uncover what they might have been doing to legitimate these metrics. Had we not engaged in this initial exploration, we would not have identified their prospective arguments, nor could we have developed our explanatory conjecture. Moreover, this approach enabled us to find a novel way to empirically test this conjecture, leading us to the rolling regression technique, which we believe has applications for scholars interested in studying temporal processes of emergence, adoption, and legitimation.

8 | CONCLUSION

This study set out to explore how new things in nascent markets become legitimate. By investigating how the new engagement metrics used by Internet firms gained legitimacy during the late 1990s, we revealed a process of prospective legitimation, whereby something new can become legitimate through the construction of a prospective link to a desirable future that has yet to manifest. We believe that this process has important implications for the development and growth of nascent markets, as well as raises important questions about how the future plays a role in grounding our present-day beliefs.

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DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available from the corresponding author upon reasonable request.

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APPENDIX A

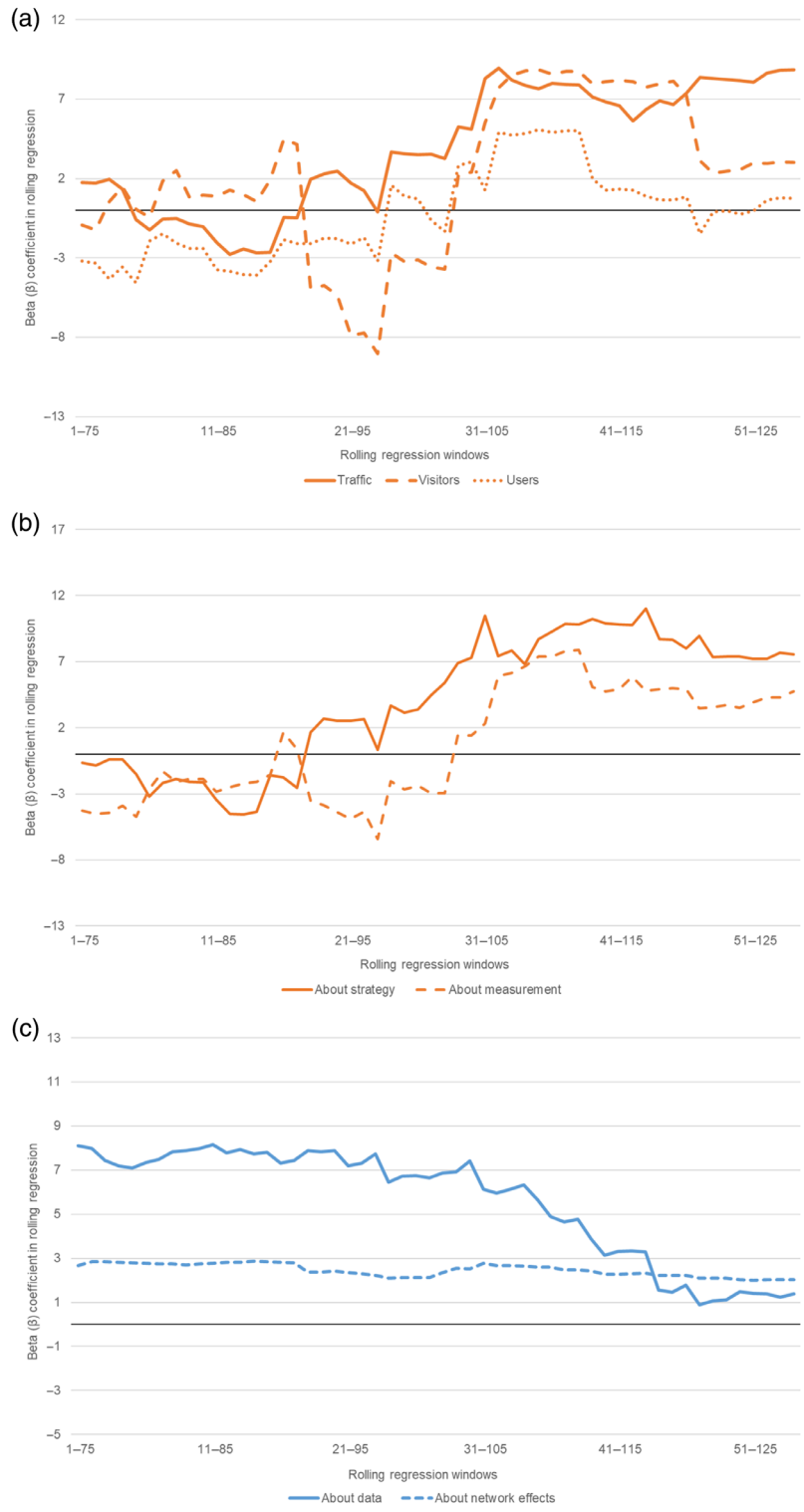

FIGURE A1 Rolling regression predicting investor reaction, by subcategory codes.

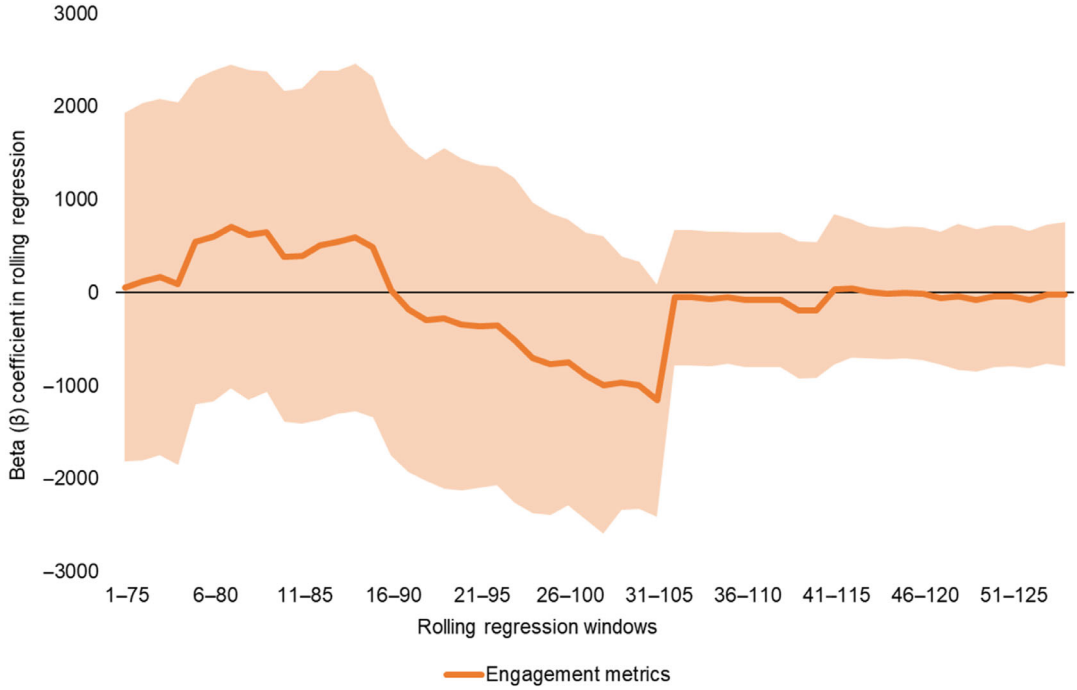

FIGURE A2 Rolling regression predicting revenue 1 year after initial public offering.

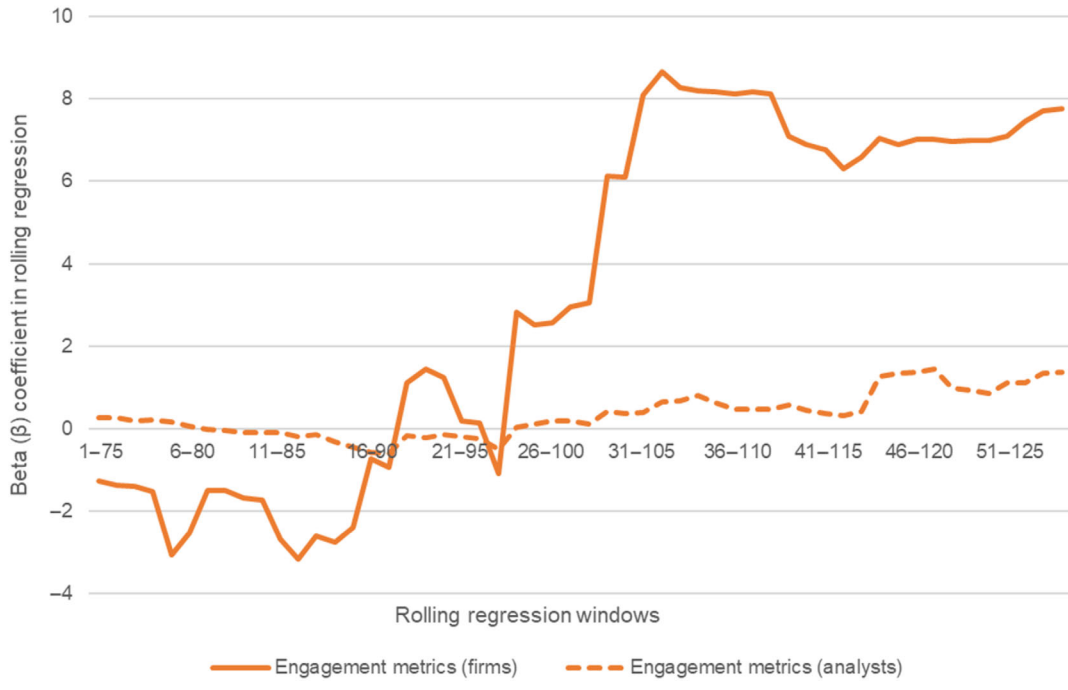

FIGURE A3 Rolling regression predicting investor reaction (influence of firms vs. analysts).

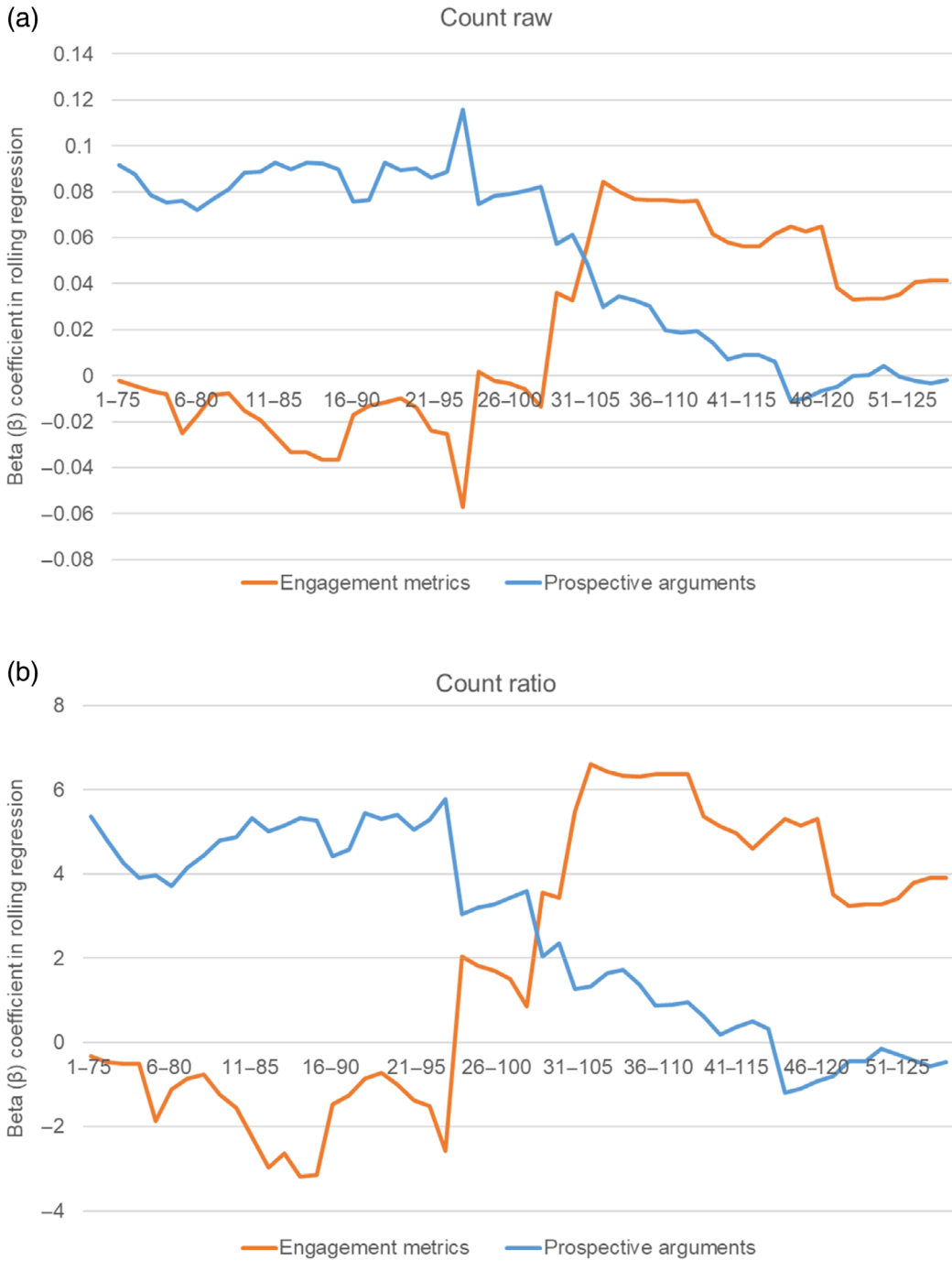

FIGURE A4 Alternative measurements of engagement metrics and prospective arguments.

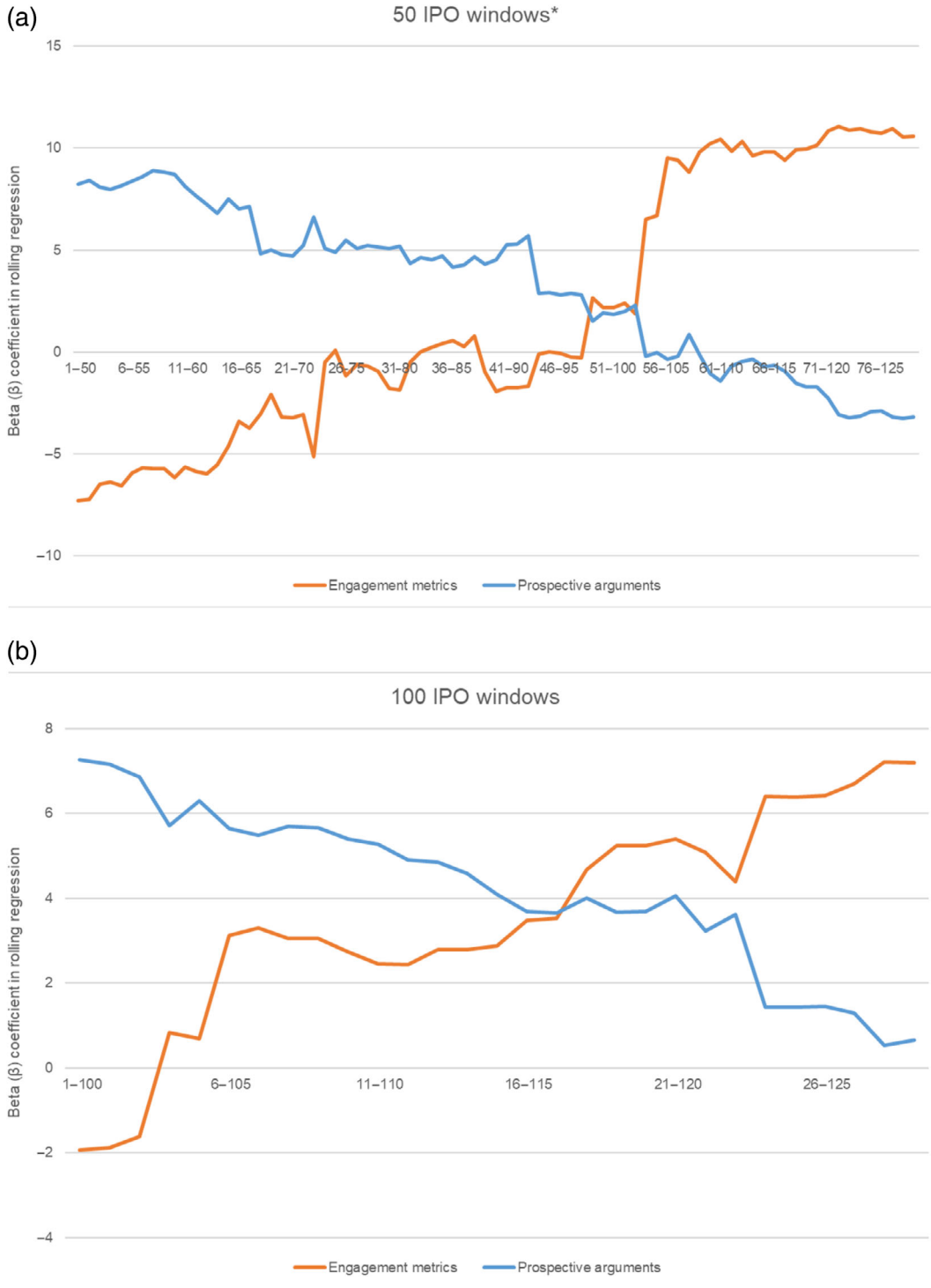

FIGURE A5 Alternative rolling regression windows. *To not swamp the model, this regression omits controls related to the market, and includes only firm-specific controls.

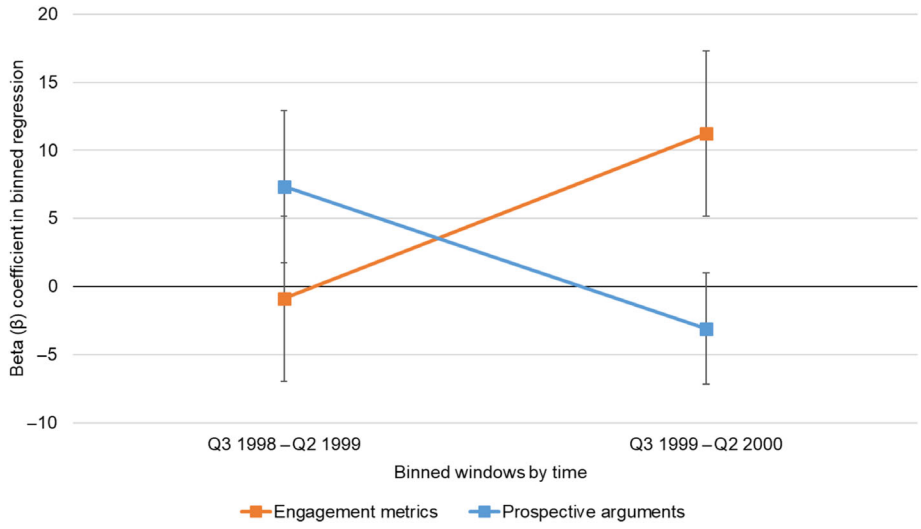

FIGURE A6 Regression predicting investor reaction, binned windows by time.

TABLE A1 Illustrative codes—Engagement metrics.

Company	IPO date	Illustrative quote
Engagement metrics		
Broadcast.com	July 17, 1998	The Company believes, therefore, that a successful Internet broadcaster must develop a well-branded, highly trafficked Web site
eBay	August 19, 1998	As of June 30, 1998, eBay had over 850,000 registered users
theglobe.com	November 13, 1998	In June 6, 1998.1 million unique visitors on this site
MiningCo	March 24, 1999	Over 4.2 million unique users on MININGCO.COM in November 1998
Launch Media	April 23, 1999	As of February 1, 1999, launch.com had approximately 1.0 million registered users
fashionmall.com	May 21, 1999	Consequently, the Company is focused on building on its traffic by (i) aggressively marketing the Company's site and (ii) entering into key strategic alliances with high-traffic Web sites
drkoop.com	August 6, 1999	We launched our website in July 1998. By February 28, 1999, www.drkoop.com had attracted over 2.6 million unique users

Abbreviation: IPO, initial public offering.

TABLE A2 Illustrative codes—Prospective arguments.

Company	IPO date	Illustrative quote
Prospective arguments		
GeoCities	October 8, 1998	Online communities of members with common interests and demographics constitute attractive opportunities for advertisers. The combination of GeoCities' unique community context, intuitive topical organization, high volumes of traffic, and Homesteaders' acceptance of the role of advertising in the community provides an attractive platform for targeted and cost-effective Web advertising and Web commerce
theglobe.com	November 13, 1998	theglobe.com structure provides a valuable platform for advertisers by allowing them to target advertisements based on both demographic information and affinity group affiliations. Advertisers are also drawn to the globe.com's volume of user traffic, frequency and average length of use. theglobe.com's ability to reach users across a wide variety of interest areas has made the site attractive to both technology companies as well as traditional consumer product and service companies
MiningCo	March 24, 1999	The Company intends to increase its advertising revenues by focusing on a number of key strategies, including broadening its base of advertisers and e-commerce partners and optimizing its advertising rates by leveraging the increasing flow of traffic in highly targeted sections within the GuideSite network
Musicmaker	July 7, 1999	By collecting information about our customers, we are able to target demographic user groups, thereby providing advertisers and sponsors with access to highly defined audiences. This segmentation will enable advertisers and sponsors to customize their messages through banner advertisements, event and program sponsorships and music recording promotions. We intend to provide our advertisers and sponsors with quantitative feedback on the effectiveness of their programs

Abbreviation: IPO, initial public offering.

TABLE A3 Descriptive statistics and correlation matrix ($N = 128$).

Variable	Mean	SD	Min	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
1. Investor reaction	0.69	1.01	−0.43	6.06																			
2. Engagement metrics	0.06	0.04	0.00	0.16	0.19																		
3. Prospective arguments	0.10	0.06	0.00	0.34	0.39	0.48																	
4. Revenue[a]	6.42	1.46	0.00	8.78	0.10	−0.10	−0.03																
5. Total assets[a]	7.27	0.53	5.04	8.32	0.00	−0.29	−0.15	0.43															
6. Firm age[a]	2.98	0.48	0.00	3.80	−0.21	−0.08	−0.03	0.13	0.17														
7. Venture capital reputation	15.56	20.00	0.00	97.99	−0.01	−0.07	0.09	0.02	0.13	0.12													
8. Lead underwriter reputation	8.04	1.30	3.00	9.00	0.24	−0.12	0.07	0.39	0.54	−0.02	0.30												
9. Share turnover	1.81	1.13	0.04	7.96	0.41	0.03	0.16	0.11	0.01	−0.09	−0.10	0.18											
10. e-commerce	0.55	0.50	0.00	1.00	−0.07	−0.25	−0.34	0.05	0.05	0.10	0.06	0.03	−0.05										
11. Platform	0.64	0.48	0.00	1.00	0.13	0.30	0.33	−0.06	−0.17	−0.01	−0.17	−0.08	0.11	−0.67									
12. Serves business	0.29	0.46	0.00	1.00	−0.08	−0.28	−0.44	−0.02	0.05	0.20	0.00	0.03	0.04	0.29	−0.28								
13. S-1 wordcount	161,515	91,513	14,679	521,443	0.00	−0.15	0.05	0.04	0.24	0.04	0.25	0.14	0.09	−0.03	0.05	0.02							
14. S-1 sentiment	76.27	5.71	55.02	92.08	0.00	−0.09	0.04	−0.01	−0.06	0.07	0.14	−0.05	0.03	0.05	−0.03	0.10	0.22						
15. S-1 future-orientation	2.21	0.28	1.38	2.76	−0.05	0.03	0.01	−0.29	−0.21	−0.08	0.10	−0.11	0.00	−0.01	−0.09	−0.18	0.32	0.06					
16. S-1 uncertainty	0.86	0.21	0.58	2.06	0.05	0.18	−0.04	0.08	−0.06	−0.02	−0.17	0.00	−0.04	−0.06	0.10	−0.06	−0.71	−0.43	−0.38				
17. Engagement growth rate	0.47	0.33	0.00	1.74	0.20	0.08	0.29	−0.04	−0.08	0.00	0.18	0.17	0.17	−0.04	−0.05	−0.07	0.08	0.16	0.19	−0.09			
18. IPO hotness	5.31	3.89	0.00	18.00	−0.23	−0.10	−0.35	−0.05	0.17	0.07	0.00	−0.06	−0.03	0.10	−0.10	0.12	0.06	0.04	0.02	−0.02	−0.30		
19. Media attention	2.08	2.49	0.00	29.00	0.05	0.01	0.12	−0.35	−0.22	−0.16	−0.04	−0.06	0.05	−0.13	0.12	−0.05	0.07	−0.06	−0.06	−0.09	0.26	−0.14	
20. Analyst metrics usage[a]	2.10	0.73	0.00	2.71	−0.14	−0.07	−0.37	−0.07	0.12	0.04	−0.24	−0.13	−0.06	0.05	0.06	0.01	0.00	−0.06	−0.02	0.11	−0.45	0.54	−0.24

Note: $N = 128$ business-to-consumer Internet firms. A rolling regression analysis examines relationships "on a moving data window rather than on the full data set" (Fildes et al., 1997). As such, studies that adopt this technique typically do not present correlation matrices, since these correlations are on the full data set. However, we include the correlation matrix below for transparency, but remind the reader that our primary analyses are conducted across moving data windows.

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[a]Variable logged.