A Resource-Based View of Using Social Media for Material Disclosures

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Abstract

In April 2013, the Securities and Exchange Commission (SEC) provided explicit guidance to public companies regarding social media use for material disclosures. Social media use is explored in three time periods: (1) prior to public SEC scrutiny of social media, (2) after the SEC filed a formal complaint about the use of social media, and (3) after the April 2013 guidance. Regression is used to test how voluntary social media use for material disclosures is associated with trading volume. The exploratory examination includes a sample of 267 companies (741 observations) across the three time periods. Consistent with RBV theory, results show a positive association between social media use for material disclosures and market valuation only in the post-April 2013 guidance period, suggesting that value does accrue when regulatory oversight is explicit.

Keywords: Regulation FD, Resource-based view (RBV), Securities and Exchange Commission, Social media

1. Introduction

Resource-Based View (RBV) theory is applied in an exploratory examination of the use of social media for material disclosures. The RBV suggests a value proposition that the use of social media to disseminate information is a resource that a company may use to accrue value. This research is the first to investigate the value proposition of social media use for material disclosures as defined by the U. S. Securities and Exchange Commission (SEC), which regulates the full and fair disclosure of information that likely will be considered by an investor in making a financial decision:

…the SEC requires public companies to disclose meaningful financial and other information to the public. This provides a common pool of knowledge for all investors to use to judge for themselves whether to buy, sell, or hold a particular security. Only through the steady flow of timely, comprehensive, and accurate information can people make sound investment decisions [1].

For purposes of this study, RBV theory incorporates the interplay among managers and the public within a regulatory climate where the resource under consideration is the company’s ability to control information content and flow. According to the RBV, managers may use social media to disclose material information2 in a way that attempts to control the flow of information and accrue value. Other traditional and well-established information channels exist for reporting material information, such as SEC filings and press releases. Therefore, the RBV suggests that some perceived incremental benefit must be available to management who choose social media as a disclosure channel. Perceived benefits may be in the form of

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1 Social media is a virtual community or network of participants, typically with common interests, such as, but not limited to, Facebook and Twitter.

2 In the absence of evidence to the contrary, any disclosures made by management are considered to be material for purposes of this study. The term, material disclosures, is used throughout to refer to the dissemination of information.
enhanced corporate image, increased sales activity, or additional public interest in the company. Thus, the use of social media to control the outward flow of information may be expected to benefit the company in explicit or even subtle ways that lead to increased market valuation.

From a capital markets perspective, the most important and largest consumers of material disclosures are institutional investors. As of 2010, institutional investors owned in excess of two-thirds of total market capitalization in the U.S., which represents an increase from below 10% in 1950 [2]. In an April 19, 2013 speech, SEC Commissioner Luis Aguilar identified the systemic importance of institutional investors and the imperative for a proper regulatory climate:

Institutional investors are known to improve price discovery, increase allocative efficiency, and promote management accountability. They aggregate the capital that businesses need to grow, and provide trading markets with liquidity — the lifeblood of our capital markets. In doing all this, institutional investors — like all investors — depend on the assurance of a level playing field, access to complete and reliable information, and the ability to exercise their rights as shareowners. That is why fair and intelligent regulation is necessary for the proper functioning of our capital markets [3].

Commissioner Aguilar makes it clear that the market benefits derived from the actions of institutional investors are, at least in part, predicated on the regulatory climate. An important implication of his statement is that the value of information transmission from managers to the public is inferior where regulatory guidance regarding the communication is lacking. Thus a proper regulatory climate is a necessary contextual condition for a social media value proposition to exist.

In April 2013, the SEC approved social media for corporate announcements that may have a material impact on an investor’s interpretation of the financial information [4]. The caveat to the SEC’s guidance is the public must be alerted that the company intends to report material information through social media. The SEC’s announcement was, at least in part, a result of Netflix’s CEO using his personal Facebook account to report material information about Netflix. On December 5, 2012, the SEC issued a Wells notice to Netflix and the CEO asserting that Regulation Fair Disclosure (FD) had been violated. A Wells notice is a letter issued by the SEC to notify parties that it intends to bring an enforcement action [6]. Recipients of a Wells notice have discretion in whether or how to inform the public. Prior to the Netflix Wells notice, the SEC had not explicitly commented about the use of social media as a means of disclosure.

Commissioner Aguilar’s call for research regarding the impact of SEC regulation on the markets begs the importance of empirical analysis of the impact of the April 2013 social media disclosure guidance. Consistent with the RBV, management may use social media as an information channel when it is perceived to increase value. An underpinning of the integrity of the capital markets is that the public has confidence about the reliability of material disclosures. Thus the tone of the regulatory climate (i.e., SEC guidance) is an essential element of the RBV. A positive association is identified between social media use and market valuation following the SEC’s April 2013 guidance.

The remainder of the paper is organized as follows. The motivation and research questions are discussed in Section II. The research design is described in Section III, followed by the results in Section IV. Discussion, limitations, and suggestions for research are summarized in Section V.

2. Theoretical Development

The SEC [7] first reported on its study of the impact of technological advances on the securities markets in 1997. At that moment in history, the Internet was not yet mature in its development or accessibility by the general public. However, the SEC acknowledged the benefits of information technologies in promoting fair disclosure and orderly markets. As a result, the SEC encouraged the use of disclosure innovation within its mission to protect investors. Thus, SEC vigilance over technological advances occurs continuously as the nature of information formats and outlets evolves over time.

2.1 SEC Regulation Fair Disclosure (FD)

Regulation FD was adopted August 15, 2000 (with an effective date of October 23, 2000) and requires that when a corporation, or its agents, discloses material nonpublic information to selected parties (e.g., securities market professionals, investment analysts), it must also make public disclosure of the same information. A requirement for simultaneous disclosure to the public is conditional on whether the

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3 On December 5, 2012, Netflix, Inc. filed Form 8-K to disclose receipt of the Wells notice [5].
information is intentionally disclosed to the selected party. If intentional, public disclosure must be simultaneous. If unintentional, then public disclosure must be made promptly [8] as noted in the SEC Ruling:

…technological developments have made it much easier for issuers to disseminate information broadly. Whereas issuers once may have had to rely on analysts to serve as information intermediaries, issuers now can use a variety of methods to communicate directly with the market. In addition to press releases, these methods include, among others, Internet webcasting and teleconferencing. Accordingly, technological limitations no longer provide an excuse for abiding the threats to market integrity that selective disclosure represents.

Regulation FD prohibits selective disclosure and encourages public disclosure in keeping with the spirit of the Securities Exchange Act of 1934, which is to promote full and fair disclosure of material information with the goals of market integrity and efficiency. Regulation FD provides latitude to the company in making the public disclosure. Options include Form 8-K (Item 7.01, Regulation FD Disclosure) and other means of broad public access (e.g., press release, website posting, scheduled conference call, webcast). Failure to comply with Regulation FD can lead to an SEC enforcement action.

On August 1, 2008, the SEC issued an interpretive release that recognizes a corporate website as adequate for meeting the Regulation FD public disclosure rule [9]. The website must be (1) a recognized channel for the communication of significant information, (2) available to the securities market in general, and (3) posted over a sufficient period of time so that investors have an opportunity to react to the information.

2.2 SEC Ruling on Social Media Use

On April 2, 2013, the SEC approved the use of social media as a means of sharing material information if investors are informed about which social media will be used. In the absence of guidance and formal reporting requirements, how social media might be used for material disclosures is difficult to determine. For example, in July 2012, the Netflix CEO reported on his personal social media site that Netflix users had streamed in excess of 1 billion hours of video. That posting led to a potential SEC enforcement action and ultimately resulted in the formal SEC guidance on the use of social media [10, 4], which made social media (e.g., Facebook or Twitter) an acceptable outlet for material disclosures.

2.3 Social Media and Resource-Based View (RBV)

RBV theory is derived from the field of industrial economics and suggests that a company creates value and obtains higher business performance when it has access to resources that it can protect from others [11]. Ideally, the resources are (1) economically valuable, (2) relatively scarce, (3) difficult to imitate, and (4) immobile across companies (e.g., [12]). In sum, the company can accrue value by properly deploying resources over which it has exclusive access and control.

In simple terms, RBV theory posits that management has resources that will yield value. Resources in the RBV may be tangible or intangible in nature. The material information being disclosed via social media channels is a valuable intangible resource with a potential material effect on market valuation. Further, unique information meets the RBV criteria of rarity and inimitability because management has exclusive discretion over the content and flow of the information being released through social media channels. The control and flow of information disclosures is also immobile across companies because the information being disclosed is unique to that individual company. This relationship is depicted in Figure 1.

On August 1, 2008, the SEC issued an interpretive release that recognizes a corporate website as adequate for meeting the Regulation FD public disclosure rule [9]. The website must be (1) a recognized channel for the communication of significant information, (2) available to the securities market in general, and (3) posted over a sufficient period of time so that investors have an opportunity to react to the information.

Extant RBV research studies the accrual of economic gains, which translate into market valuation, ceteris paribus. Economic gains may be operationalized as performance measures, which include indicators of corporate profitability and return on investment [13], return on equity [14,15,16],

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4 See http://www.sec.gov/answers/form8k.htm for a summary of Form 8-K disclosures.
return on sales [13,17,18,19], revenue [20,21,22], and sales [23,13,15,24,25].

Mahoney and Pandian [26] suggest performance is influenced by the effects of unique resources. The management of external relationships through information systems reflects the RBV perspective [27]. It follows that RBV theory may explain that the use of social media for material disclosures is positively associated with market valuation through the following mechanisms: (1) corporate image, (2) information sharing and integration, and (3) economic gains. Social media and its use for discretionary disclosure are together a resource management may use for value creation. Prior research supports the link between increased use of information technology and a corresponding increase in value and performance [28].

2.4. Research Questions
In this exploratory examination of the association between social media use and market valuation, RBV theory is applied to a manager’s disclosure of material information through social media. In RQ1, the focus is on whether an association exists. RQ2 considers the specific impact of the presence of regulatory guidance.

RQ1: Is the use of social media for material disclosures associated with market valuation?

RQ2: Is the presence of regulatory guidance about the use of social media for material disclosures associated with market valuation?

3. RESEARCH DESIGN
The research design consists of two phases. In the first phase, RQ1 is used to address and investigate if an association exists between social media disclosure and market valuation. In the second phase, the three distinct periods that occurred within the space of one year are examined: (1) the period prior to the SEC’s December 5, 2012 Wells notice to Netflix and its CEO; (2) the period subsequent to the Wells notice and before the SEC’s April 2, 2013 release of guidance relative to use of social media for material disclosures; and (3) the period following SEC guidance on social media through September 30, 2013. Figure 2 depicts the time periods as partitioned within the one year of the analysis.

The data covers the one-year period from September 30, 2012 through September 30, 2013. The random sample of 410 companies was drawn from the Compustat database. For each company in the sample, the reported financial data corresponding to the last quarter ending within each of the three blocks of time was used, yielding 1,230 (3 × 410) observations. Due to data insufficiency, 489 observations were lost, leaving a final sample of 267 firms and 741 observations in the one-year period.

For each company, the first step was to identify whether a Form 8-K had been filed that reported social media outlets as a means of material disclosure. The second step was to note the social media outlets used by the issuer by examining the company website. After this information was assembled, the third step involved extensively searching the identified outlets for material disclosures as envisioned by Regulation FD. All companies in the sample were included in the search whether or not a Form 8-K had been filed.

3.1 Empirical Models
RBV theory suggests that managers use resources to accrue value. Models 1a and 1b explore the value proposition for social media use as articulated in the RQ1. As described below, two alternative measures of social media use are considered. Models 1a and 1b are estimated without regard to the presence of regulatory guidance.

\[ MKTVAL_{it} = \beta_0 + \beta_1USE_{it} + \beta_2PROFIT_{it} + \beta_3PCTVOL_{it} + \varepsilon_{it} \]  

(1a)

\[ MKTVAL_{it} = \beta_0 + \beta_1POSTS_{it} + \beta_2PROFIT_{it} + \beta_3PCTVOL_{it} + \varepsilon_{it} \]  

(1b)

The variables are described in Table 1. All variables are measured in each of the three distinct periods depicted in Figure 2.

The sheer volume of social media activity necessitated the restriction of the nature of disclosure under investigation to a specific type. For this exploratory study, social media use is operationalized as any social media communication containing disclosures of a financial nature. Most of the companies in the sample that disclosed with social media did so concurrently using both Facebook and Twitter; however, Twitter dominated these communications. Therefore, to control for unique communication channel characteristics and to prevent double counting, the

5 Net income or common share information were missing from the Compustat database for the omitted observations.

6 Due to the recency of the effects in this study, application of traditional valuation models (e.g., [29]) is not viable.
social media use variables are measured exclusively on Twitter posts. Two variables are used to measure social media activity: (1) USE is assigned the value of 1 if a company used social media for financial disclosure, else zero; and (2) POSTS reflects the number of social media posts containing financial information. The dependent construct, corporate value, is operationalized as market valuation (MKTVAL), which is measured as the shares outstanding multiplied by the closing market price as of the last quarter ended in each of the three periods. Controls for profitability and corporate level market trading activity are included in the models. Profitability (PROFIT) is evaluated based on the same fiscal quarter end results used in computing MKTVAL, and assumes the value of 1 if the company reported positive earnings in the last fiscal quarter ended in each period, else 0. A positive association between MKTVAL and PROFIT is expected. Trading volume literature demonstrates an association with firm size, analyst following, disparate beliefs about the company, and breadth of information in the market (e.g., [30]); a positive association is expected with MKTVAL. The trading volume metric (PCTVOL) is trading volume divided by the common shares outstanding during the last fiscal quarter ended in each period. Both MKTVAL and PCTVOL are log-normalized to address skewness in the raw data.

While no a priori expectation exists, it is possible that the value accrued through social media use is conditioned on the regulatory environment. Models 2a and 2b address RQ2 by expanding the corresponding Models 1a and 1b with unique intercepts for each variable for each of the three distinct periods. Variables are described in Table 1.

(2a) MKTVALit = \beta_0 + \beta_1 USE1i + \beta_2 USE2i + \beta_3 USE3i + \beta_4 PROFIT1i + \beta_5 PROFIT2i + \beta_6 PROFIT3i + \beta_7 PCTVOL1i + \beta_8 PCTVOL2i + \beta_9 PCTVOL3i + \epsilon_{it}

(2b) MKTVALit = \beta_0 + \beta_1 POSTS1i + \beta_2 POSTS2i + \beta_3 POSTS3i + \beta_4 PROFIT1i + \beta_5 PROFIT2i + \beta_6 PROFIT3i + \beta_7 PCTVOL1i + \beta_8 PCTVOL2i + \beta_9 PCTVOL3i + \epsilon_{it}

4. Results
4.1 Descriptive Statistics and Univariate Analysis
Table 2, Panel A presents summary descriptive statistics for the total sample bifurcated by users and nonusers of social media for material disclosures. In 9.72% of the observations, social media is used for material disclosure (i.e., USE=1). Of those observations, the average number of posts is 3.94. MKTVAL, total assets, and net income are significantly larger (p<0.05) for users of social media. PCTVOL and PROFIT are not discernibly different users and nonusers. The univariate statistics in Panel A suggest that larger companies are more likely to use social media for material disclosure. Panel B presents USE by period. The percent of companies using social media for material disclosure is 6.53% in period 1, 7.44% in period 2, and 14.96% in period 3.

Social media use for material disclosures is highest in period 3 as reported in Table 3. While not tabulated, a total of 39 companies generated 72 social media observations in the sample. Of those using social media (n=39), approximately one-third (n=12) used it in all three study periods. Of those using social media in only one period (n=18), all but one initiated use in period 3. Over half (38 of 72) of the social media observations occurred after the SEC issued its guidance on April 2, 2013. In an untabulated test for differences in proportions, social media use for material disclosures in period 3 is significantly higher (p<0.01) than in periods 1 and 2.

4.2 Multivariate Analysis
Results of the estimations of Models 1a and 1b are reported in Table 4. Both models are significant (p<0.001) and explain between 3.5% and 4.0% of the variability in market valuation. Coefficient estimates for USE and POSTS are positive and significant, indicating support for the value proposition of social media use (RQ1). Other variables in Model 1 also are significant at conventional levels and exhibit the expected signs.

Estimation results for Models 2a and 2b are reported in Table 5. Both models are significant (p<0.001) and explain between 3.1% and 3.6% of the variability in market valuation. The variables USE1, USE2, POSTS1, and POSTS2 fail to reach significance at the p<0.05 level, suggesting that the value proposition does not hold in those periods. However, in period 3, both USE3 and POSTS3 are significant at conventional levels, supporting both RQ1 and RQ2. In the period following SEC guidance, the use of social media...
increases markedly. The characteristics that make information and related channels useful (e.g., regulatory oversight) also appear to enhance the value proposition.

[insert table 5 here]

5. Discussion
To our knowledge, this study is the first to examine the association of social media use for material disclosures and market valuation. Consistent with RBV theory, managers use social media as a resource with the intent of accruing value through enhanced corporate image. The exploratory examination was conducted against the backdrop of three distinct regulatory periods that occurred within the space of one year: (1) the period prior to the SEC’s December 5, 2012 Wells notice; (2) the period subsequent to the Wells notice but before the SEC’s April 2, 2013 release of guidance relative to use of social media for material disclosures; and (3) the period following SEC guidance on social media through September 30, 2013.

Both of the research questions are supported. First, a positive association exists between social media use and market valuation, but only after the SEC issued guidance. Second, social media is used for material disclosures in all three of the periods, but increases in the period following explicit SEC guidance. Thus the value proposition exists throughout, but is magnified with regulatory endorsement of the additional information channel. Management may perceive the regulatory guidance as legitimizing social media.

This line of academic inquiry into valuation associated with social media as an information channel for material information is in its infancy. Further examination is essential regarding the motivation for the use of social media, the content of social media disclosures, and the degree to which replication of information available from other channels is important to the investing public. Specifically in the case of RBV theory, more extensive and traditionally accepted valuation models (e.g., Ohlson 1995) should be explored after sufficient data are available.

The findings are valuable to management as it explores ways to use information to maximize shareholder wealth. The association between social media use for material disclosures and market valuation suggests that it is a powerful resource, consistent with RBV theory. Research about how information flow impacts the capital markets informs the institutional investors and regulators. As SEC Commissioner Aguilar (2013) noted, “The SEC needs to hear from all credible voices that can add value to the ongoing public dialogue on the issues facing the capital markets today.”

5.1 Limitations & Suggestions for Future Research
The current examination is exploratory because it was conducted as events unfolded. The analysis intentionally covers a one-year period of time to capture the effects of changes in the regulatory environment. Future research is needed to determine if the results are robust over a longer time period, different datasets, or other regulatory arenas. In all of the companies examined, material disclosures on social media were first reported through traditional channels; yet only in the post-guidance period was a positive association identified between use of social media and market valuation. Research into the unique characteristics of investors obtaining information from social media versus other channels is essential.

Future research should examine the possibility that the frequency of positive information, even when repeated from other SEC-approved information outlets, may allow management to accrue value by biasing the social media user away from negative information. That is, social media may provide an opportunity for managers to extract and emphasize good versus bad news. RBV appears to provide a theoretical understanding of the value created by use of social media for material disclosures. Future research should explore refinements to the application of the RBV theory as the use of social media changes. Extension of RBV theory to small businesses and the use of social media also should be explored.

6. References
Available at:


FIGURE 1
RBV Model of Mandated and Social Media Disclosure

Decision to employ additional channel(s)  Social media
Material information  Public
SEC-mandated disclosure

FIGURE 2
Regulatory Guidance on Use of Social Media and Analysis Periods

<table>
<thead>
<tr>
<th>Time</th>
<th>No specific guidance</th>
<th>Guidance under consideration</th>
<th>Specific guidance available</th>
</tr>
</thead>
<tbody>
<tr>
<td>September 30, 2012</td>
<td>Period 1: 67 days</td>
<td>Period 2: 118 days</td>
<td>Period 3: 181 days</td>
</tr>
<tr>
<td>December 5, 2012</td>
<td>Wells notice issued to Netflix</td>
<td></td>
<td></td>
</tr>
<tr>
<td>April 2, 2013</td>
<td>SEC issues guidance</td>
<td>September 30, 2013</td>
<td></td>
</tr>
<tr>
<td>September 30, 2013</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Wells notice issued to Netflix
SEC issues guidance
Table 1. Variable Definitions for Models 1 and 2

<table>
<thead>
<tr>
<th>Variable</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>MKTVAL</td>
<td>The number of shares outstanding multiplied by the closing share price as of the last quarter ended in each period. Reported in millions of dollars.</td>
</tr>
<tr>
<td>USE</td>
<td>A binary variable assigned the value of 1 if financial information is disclosed through social media, else 0.</td>
</tr>
<tr>
<td>USE1</td>
<td>Period-specific measures of USE.</td>
</tr>
<tr>
<td>USE2</td>
<td></td>
</tr>
<tr>
<td>USE3</td>
<td></td>
</tr>
<tr>
<td>POSTS</td>
<td>The number of social media posts containing corporate financial information.</td>
</tr>
<tr>
<td>POSTS1</td>
<td></td>
</tr>
<tr>
<td>POSTS2</td>
<td></td>
</tr>
<tr>
<td>POSTS3</td>
<td></td>
</tr>
<tr>
<td>PROFIT</td>
<td>A binary variable assigned the value of 1 if a profit was reported for the last quarter ended in that period, else 0.</td>
</tr>
<tr>
<td>PROFIT1</td>
<td>Period-specific measures of PROFIT.</td>
</tr>
<tr>
<td>PROFIT2</td>
<td></td>
</tr>
<tr>
<td>PROFIT3</td>
<td></td>
</tr>
<tr>
<td>PCTVOL</td>
<td>The total trading volume divided by the number of shares outstanding during the last quarter ended in that period.</td>
</tr>
<tr>
<td>PCTVOL1</td>
<td>Period-specific measures of PCTVOL.</td>
</tr>
<tr>
<td>PCTVOL2</td>
<td></td>
</tr>
<tr>
<td>PCTVOL3</td>
<td></td>
</tr>
</tbody>
</table>

Periods are described in Figure 2.

Table 2. Descriptive Statistics

<table>
<thead>
<tr>
<th></th>
<th>Total Sample (n=741)</th>
<th>Users (n=72)</th>
<th>Nonusers (n=669)</th>
<th>Diff in means (Users v. Non)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>SD</td>
<td>Mean</td>
<td>SD</td>
</tr>
<tr>
<td>USE</td>
<td>0.0972</td>
<td>0.2964</td>
<td>1.0000</td>
<td>0.0000</td>
</tr>
<tr>
<td>POSTS</td>
<td>0.3833</td>
<td>1.6706</td>
<td>3.9444</td>
<td>3.8525</td>
</tr>
<tr>
<td>PCTVOL</td>
<td>136.5</td>
<td>419.5</td>
<td>138.3</td>
<td>188.3</td>
</tr>
<tr>
<td>PROFIT</td>
<td>0.3549</td>
<td>0.4788</td>
<td>0.3056</td>
<td>0.4639</td>
</tr>
<tr>
<td>MKTVAL (a)</td>
<td>311.8</td>
<td>1,801.9</td>
<td>1,434.0</td>
<td>9,439.3</td>
</tr>
<tr>
<td>Total assets (a)</td>
<td>21.4</td>
<td>243.0</td>
<td>174.6</td>
<td>665.6</td>
</tr>
<tr>
<td>Net income (a)</td>
<td>0.1</td>
<td>2.2</td>
<td>1.1</td>
<td>7.0</td>
</tr>
</tbody>
</table>

(a) in $ million

Table 3. Frequency of Social Media Use by Period

<table>
<thead>
<tr>
<th></th>
<th>Period 1</th>
<th>Period 2</th>
<th>Period 3</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Observations where USE=1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>One period</td>
<td>1</td>
<td>0</td>
<td>17</td>
<td>18</td>
</tr>
<tr>
<td>Two periods</td>
<td>3</td>
<td>6</td>
<td>9</td>
<td>18</td>
</tr>
<tr>
<td>Three periods</td>
<td>12</td>
<td>12</td>
<td>12</td>
<td>36</td>
</tr>
<tr>
<td>Totals</td>
<td>16</td>
<td>18</td>
<td>38</td>
<td>72</td>
</tr>
</tbody>
</table>

Periods are defined in Figure 2.

Table 4. Regression Results for Models 1a and 1b*

<table>
<thead>
<tr>
<th>Variables</th>
<th>Sign</th>
<th>Coeff.</th>
<th>p-value</th>
<th>Coeff.</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>USE</td>
<td>+</td>
<td>0.737</td>
<td>0.001</td>
<td></td>
<td></td>
</tr>
<tr>
<td>POSTS</td>
<td>+</td>
<td>0.153</td>
<td>0.000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PROFIT</td>
<td>+</td>
<td>0.490</td>
<td>0.001</td>
<td>0.474</td>
<td>0.001</td>
</tr>
<tr>
<td>PCTVOL</td>
<td>+</td>
<td>0.103</td>
<td>0.004</td>
<td>0.098</td>
<td>0.007</td>
</tr>
<tr>
<td>Intercept</td>
<td></td>
<td>2.297</td>
<td>0.000</td>
<td>2.332</td>
<td>0.000</td>
</tr>
</tbody>
</table>

Model sig. 0.000 0.000
F-statistic 9.99 11.32
Adj-R² 0.035 0.040

Model 1a. MKTVAL = β₀ + β₁USE + β₂PROFIT + β₃PCTVOL + ε

Model 1b. MKTVAL = β₀ + β₁POSTS + β₂PROFIT + β₃PCTVOL + ε

* The sample consists of 741 observations representing 267 companies over three periods. The periods are described in Figure 2; variables are defined in Table 1.
### TABLE 5
Regression Results for Models 2a and 2b*

<table>
<thead>
<tr>
<th>Variables</th>
<th>Sign</th>
<th>Coeff.</th>
<th>p-value</th>
<th>Coeff.</th>
<th>p-value</th>
</tr>
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<tr>
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<tr>
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<tr>
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<tr>
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<tr>
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Model sig.  0.000  0.000
F-statistic 3.59  4.05
Adj-R²  0.031  0.036

Model 2a. \( \text{MKTVAL}_t = \beta_0 + \beta_1 \text{USE}_1t + \beta_2 \text{USE}_2t + \beta_3 \text{USE}_3t + \beta_4 \text{PROFIT}_1t + \beta_5 \text{PROFIT}_2t + \beta_6 \text{PROFIT}_3t + \beta_7 \text{PCTVOL}_1t + \beta_8 \text{PCTVOL}_2t + \beta_9 \text{PCTVOL}_3t + \epsilon_t \)

Model 2b. \( \text{MKTVAL}_t = \beta_0 + \beta_1 \text{POSTS}_1t + \beta_2 \text{POSTS}_2t + \beta_3 \text{POSTS}_3t + \beta_4 \text{PROFIT}_1t + \beta_5 \text{PROFIT}_2t + \beta_6 \text{PROFIT}_3t + \beta_7 \text{PCTVOL}_1t + \beta_8 \text{PCTVOL}_2t + \beta_9 \text{PCTVOL}_3t + \epsilon_t \)

* The sample consists of 741 observations representing 267 companies over three periods. The periods are described in Figure 2; variables are defined in Table 1.