



How **Message Board Rumors** Can Hurt Your Business

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IN TERMS OF INVESTING, INFORMATION IS ESSENTIAL, AND THE INTERNET PROVIDES THE MEDIUM FOR PEOPLE TO INTERACT AND PASS ALONG ALL KINDS OF INVESTING-RELATED INFORMATION. ONE SOURCE OF EXCHANGING INFORMATION IS INTERNET STOCK MARKET MESSAGE BOARDS SUCH AS YAHOO!® FINANCE. THE PROBLEM WITH THESE POSTINGS IS THAT THE INFORMATION INCLUDES QUESTIONS, FACTUAL STATEMENTS, OPINIONS, RUMORS, AND IRRELEVANT NONSENSE. WHAT EFFECT COULD THIS HAVE ON A COMPANY'S REPUTATION?

The number of individual investors participating in the stock market continues to increase, and many of them frequently use the Internet to obtain information as there is such a variety available.¹ A company may provide audited and unaudited information on its website. Some of the material is financial; the other can be management's discussion of the future. More information comes from third parties such as analysts, the news media, and other investors.

When it comes to Wall Street, information is essential.² With the Internet, millions of people can interact daily and pass along data, factual and rumor-based, including financial accounting information.³ Online sources for exchanging information include Internet

stock market message boards such as those at Yahoo! Finance (<http://finance.yahoo.com>). Yahoo! Finance had approximately 12 million registered users in February 2006.⁴ Despite this large number, limited research has actually been done on the message boards. Prior research primarily concerns the message board relationship with stock price volatility and stock returns. My research has also been limited by interpreting existing message postings. In this study I address the question: "Do message postings have an influence on nonprofessional investors' investment decisions?"

Knowing whether there is an influence is the first step in understanding how these postings may affect a business.

Studies have found that some investors do not understand or even review financial statements.⁵ Marc J. Epstein and Moses Pava found that nearly 30% of investors in the United States lack the knowledge necessary to understand basic financial statements, and David F. Hawkins and Barbara A. Hawkins found that more than 50% of investors simply skim over annual reports without performing any formal analysis.⁶ Typically, more-experienced investors have a better ability to understand and use unfiltered financial information (e.g., Securities & Exchange Commission (SEC) filings), whereas less-experienced investors are more likely to seek help in interpreting the information.⁷ To help with either understanding financial reports/earnings information or to gather information that does not come from the company, investors may seek information from third parties such as analysts, the financial news media, and/or message boards. There can be various degrees of accuracy, however, within third-party information. Some of the information is factual and verifiable; other information is rumor-based only. The rumor-based information can make an impact on the market. For example, a financial rumor can spread quickly on the Internet and gain believability, and other sources, such as television and the print news media, have the opportunity to present the item as news.⁸ Message boards tend to be a good source for beginning rumors.⁹ One instance of using the Yahoo! Finance message board to start a rumor took place in April 1999. An employee of PairGain Technologies, Inc. posted on the message board that PairGain had agreed to be acquired and even included a link to a fake news announcement. PairGain's stock increased more than 30%.¹⁰

Through an experiment, I tested the influence of a set of message board postings on MBA students' (proxy for nonprofessional investor) investment decisions. I compared the participants' investment decisions before and after the students were exposed to message board postings. Then I compared changes in investments for the participants receiving the message board postings to a control group that made an investment decision based on only the financial data before and after completing a simple distraction task. I hypothesized that the groups receiving message board postings would change their

investment decisions. A fourth group received a mixed set of message board postings (equal negative/positive) as a second control group for additional analysis. The results indicated that the biggest influence came from negative message board postings.

This research should help in understanding the influential power of the message boards and the potential effects they can have on nonprofessional investors. It also contains valuable insights for corporations worried about their message boards and Internet rumors.

BACKGROUND AND HYPOTHESIS

DEVELOPMENT

Message Boards

Internet stock message boards are bulletin-board-type sites on the World Wide Web where individuals post messages discussing publicly traded companies.¹¹ Typically, anyone can read these messages and, after registering with the site host, post messages. A popular host of these message boards is Yahoo! Finance, where most publicly traded companies have message boards dedicated to them. Stock message boards started on Yahoo! Finance in 1997. Postings include questions, factual statements, opinions, rumors, and irrelevant nonsense.

Message boards may run off topic at times, but research has found that most messages posted around earnings announcement time relate to the discussion of the companies and their earnings.¹² These postings include questions, clarifications, and posters' predictions for the future. In 1999–2001, more than 35 million messages were posted on the Yahoo! stock message boards.¹³

The SEC is concerned about individuals buying low-value stocks and "pumping" them up on the message boards by posting positive statements, then, once others have bought the stocks and raised the prices, selling all of their holdings.¹⁴ For other stocks, short-seller activity is of concern. Short-sellers are investors who sell borrowed stock and subsequently close their positions by buying stock back at a later time using the purchased shares to extinguish the initial loan of the stock.¹⁵ Short-sellers profit from a decrease in the stock price. Either situation can be a problem for a company, but businesses typically are more concerned about the negative postings.

Peter D. Wysocki found a relationship between posting volume and short-seller activity—the amount of shares that were reported as being sold short for the month by the firm.¹⁶ Potential evidence of short-seller postings could include when a company has just released great earnings news yet certain postings continue to be negative. For instance, here is one poster's response to Google beating analyst earnings for the first quarter ending March 31, 2006:

ReChart says: OVEREXTENDED-NOTHING ELSE!

by: valueplay_2000

Long-Term Sentiment: Strong Sell

04/21/06 12:45 pm

IT'LL COME OUT WITHIN WEEK OR TWO THAT THE NUMBERS SHOULD HAVE BEEN LOWER IN ALL REALITY IF ALL EXPENDITURES WERE TAKEN INTO [ACCOUNT]...27% TAX RATE IS WRONG AND 5.3 MILLION ADDITIONAL SHARES ISSUED LAST DAY OF QT 1 SHOULD HAVE BEEN INCLUDED TO BEGIN WITH ALSO ALL EXPENSES WERE NOT COUNTED & ARE BEING CARRIED FORWARD TO LATER QT'S...IT'S WRONG. (Corrected spelling is placed in brackets.)

This particular post is responding to good news from Google in a negative manner, trying to get individuals to sell their stock now. It is not known, but this could represent an individual who sold the stock short and wants the stock price to decrease by disseminating negative information quickly in order to buy the stock back at a lower price.

Many companies are concerned about message postings and are taking active measures to address the issue.¹⁷ These postings may come from employees of the company as well as any outsider. Sometimes these postings are untrue.¹⁸ At other times, postings can be very accurate warnings.¹⁹ These postings and the potential for new postings often lead to companies monitoring employee Internet use at work, monitoring message board postings, and even filing lawsuits. Some marketing experts and public relations firms urge their clients to respond to postings directly on the message

boards, although securities lawyers do warn of liability risk.²⁰ Jonathan Carson and James Felton give an overview of message boards and offer suggestions to corporations dealing with message board postings.²¹

Although message boards are still a relatively new source of information, the number of postings illustrates their popularity. Even then, the postings do not represent all the participants involved with the message boards. The number of lurkers—participants who only read the messages—is impossible to know because most message board sites do not require someone to register before reading message postings.²² There are multiple reasons someone may come to a message board, including seeking more information, clarification, or anxiety relief, but are investors' decisions influenced by what is posted there? The SEC warns that investors may be influenced negatively and has been taking legal action, and companies are beginning to make serious efforts to monitor and react as the news media claim that message postings can move markets.²³ While the general belief is that message board postings may influence individual investors, there is a gap within the academic literature actually looking at this potential influence. Understanding the potential influence these messages have on investors may help the accounting profession understand how different sources of information affect investors. It may also help regulators evaluate how much focus they need to place on message boards.

Rumors

Rumors have long been a part of society. While the word "rumor" often has a negative connotation, rumors may contain fact-based information or be completely false, but the main component is that the information is unconfirmed.²⁴ More specifically, rumor has been defined as information that is not verified, is of local or current interest or importance, and is intended primarily for belief.²⁵

Rumors can cause damage and are a concern within the financial community.²⁶ Even when individuals admitted that they knew that rumors were from perceived noncredible sources, the rumor information affected the investors' stock trading activity.²⁷ In their study, Nicholas DiFonzo and Prashant Bordia had sub-

jects participate in an investment simulation. Subjects were presented with:

- ◆ The stock price alone,
- ◆ The stock price and *The Wall Street Journal* news stories,
- ◆ The stock price and published rumors from *The Wall Street Journal* "Heard on the Street Column," or
- ◆ Stock price and rumors from brother-in-law Harry.

Despite subjects rating the credibility of the rumors as lower than that of the news stories, trading based on the information was similar to those with the news stories and less regressive than those that received no additional information. While the study investigated rumors from known sources (i.e., the brother-in-law or *The Wall Street Journal*), the message board postings that I investigated in the current study come from unknown sources.

An investment decision is essentially a prediction of future events. Uncertainty clouds these future events, and investors search out information in an attempt to lessen this uncertainty or feel more confident in their decisions. One reason that rumors may have influential power is that they create a plausible story to explain situations that may be confusing, uncertain, or ambiguous.²⁸ Earnings announcement time is an uncertain and ambiguous situation, and some message board postings attempt to create a plausible story. The story may have malicious intentions, be a warning of bad things to come, foretell a positive future, or simply attempt to clarify confusing financial data.

Stock message board postings increase and become more focused on companies and their earnings during these announcement periods.²⁹ In fact, message board discussions can turn into in-depth debates about a company's financial reports.³⁰ Like rumors, message board postings can vary in content, but they are mostly not verified (contain future predictions), they are relevant to the current interest (the company for which the message board is about), and the posting is usually intended for others to believe. Also, message board postings are generally considered to be financial rumors.³¹ In a time of uncertainty, rumors are often believed and influence actions.³² Considering message board postings as a type of rumor leads

to my primary hypothesis (in alternative form):

H1: Subjects given positive or negative message board postings will change their investment in the company more than those who do not receive any postings.

In this study, I proposed that message board postings would influence some subjects because they are financial rumors. If the rumor had a positive implication, then the subject would increase his or her amount of investment in the stock versus what he/she would invest before reading the postings. If the rumor had a negative implication, then the subject would decrease the amount of investment in the stock compared to what he/she would invest before reading the postings.

METHODOLOGY

I used 110 MBA students for this study. Although the focus was on nonprofessional investors, it was difficult to recruit and use members directly from this group, even though many studies have used MBA students as a proxy for nonprofessional investors.³³ The students came from multiple universities, and I asked program directors and professors teaching MBA classes at these universities if I could talk with the students. I asked the students to participate voluntarily in the experiment either on their own time in a lab setting (n=35) or through the Internet (n=75). Participants included 43 females and 67 males, they averaged 4.24 years of investing experience, and they had taken 2.24 accounting courses and 1.87 finance classes.

Subjects were randomly assigned to one of four treatment groups (no message board, n=24; positive message board, n=31; negative message board, n=26; and mixed message board, n=29) and were presented access to materials through a computer task. All subjects were directed to a website to view financial information for a company in which they were told they currently have an investment. After reviewing the financial information, subjects in each group were asked to make an investment decision. Each subject was asked to increase, decrease, or maintain his/her current investment in increments of 100 shares.

After the subjects made their investment decisions, they were asked a series of questions to determine their

attitude about the investment. Next, subjects in the control group were asked to complete an unrelated task, and the message board groups were asked to complete the same unrelated task and review some message board postings related to the company. The message board groups were separated into one group who received messages that had an overall negative tone, a second group who received messages that had an overall positive tone, and a third group who received a mixed set of messages.³⁴ The messages in the mixed group had an equal weighting of negative- and positive-toned messages.³⁵ This mixed-message group acted as a second form of control group in order to make additional comparisons.

After completing this step, subjects in all groups had the opportunity to review the original financial information again before being asked to make the investment decision one more time. After the students made their investment decision, the computer program moved to a questionnaire. At this point, subjects were not able to go back and access any previous material. The questionnaire was used to assess additional information related to another study and to gather related basic

demographic information and perform related manipulation checks. After the students completed the questionnaire, the computer program allowed for automatic storing of the responses, and the subjects were presented a website that confirmed their submissions and thanked them for their participation. (See Table 1 for the steps involved.)

For motivation, subjects were entered into a lottery for a chance at winning one of 10 \$75 gift cards. Their number of entries was based on their performance and effort as compared to the other participants. Performance was based on the profitability of the participant's final investment decision. The participant had a choice to buy up to 400 more shares, hold his/her current position, or sell up to all 400 shares. The value not invested in the company was invested in a low-risk government security, and all investments were sold at the end of six months. Because the financial information was adapted from a real company, the profitability of the investment was based on the price of the investment six months from the date of the information presented. Effort was based on the students' answers during the distraction task (a series of investment questions with right and

Table 1: Task Steps

Group	No Message Board Posting	Positive Message Board Posting	Negative Message Board Posting	Mixed Message Board Posting
Step 1	Given Financial Data			
Step 2	Make Investment Decision			
Step 3	Investment Attitude Measurement			
Step 4	Distraction Talk—General Investment Questions			
Step 5	Go to Step 6	Given Positive Message Board Postings	Given Negative Message Board Postings	Given Mixed Message Board Postings
Step 6	Opportunity to Review Financial Information Again			
Step 7	Make Second Investment Decision			
Step 8	Attitude Questionnaire			
Step 9	Perception Questions			
Step 10	Demographic Questions			

wrong answers) and the time they spent on the investment decision. Subjects received a maximum of five entries and a minimum of one for participating.

The Message Board

The message board used in this experiment was adapted from messages actually posted on a company's message board on Yahoo! Finance. Messages in the positive group were matched with the messages in the negative group to create a relative balance in the degree of positive and negative. A normal message board would require a user to click on a message to read it and then

have the ability to read thousands of messages posted since 1997, but, for experimental purposes, this message board was a sample list of eight postings presented in a date order on the screen. Although I could not force a subject to actually read the messages, I did eliminate the need to click on messages because this study was not concerned with information search strategy—just whether the postings could influence decisions. As an attempt to encourage the participants to read the messages, they were not able to continue to the next screen until one minute had expired. (See Table 2 for a sample of the messages.)

Table 2: Postings

Postings (negative group received negative postings, positive group received positive postings, mixed groups received an equal mix of negative and positive postings)

Spin...Spin...Spin (negative)

24-Jul-06 05:29 pm

Posted by: InvestorMike

As subscribers go up they make less money. 2% margins are not worth getting excited about. This will be as good as it gets, sell now and find something with a better future.

Come and gone (negative)

24-Jul-06 08:27pm

Posted by: Fill-the-Gaps

The time has come and gone for QuickGames. They had a good run, but growth is slowing, guidance is weakening, and competition is getting stronger. They missed some key expectations and the stock is going to be punished for it. Sell as quickly as possible.

This does not take a rocket scientist! (negative)

24-Jul-06 09:19 pm

Posted by: Fill-the-Gaps

With increasing cost to obtain a new subscriber, year over year growth prospects slowing down, and new forms of competition coming from all over, I'd wager a month's pension that in 5yrs there will be nothing left.

Future looks dull (negative)

24-Jul-06 11:51pm

Posted by: ForwardLooker

Quickgames has horrible potential. There is no value in their services. While it may only be \$5.99 a month to download games, the games are sub par as compared to the new console games. You get what you pay for. An x-box 360 game may cost \$60, but the quality is far superior. People want quality, just look at the increase in subscriber acquisition cost and the decrease in gross margin from the 1st qtr.

(continues on next page)

Spin...Spin...Spin (positive)

24-Jul-06 05:29 pm

Posted by: InvestorMike

Subscriptions are up, now it is time for QCKG to make money off of them. 2% margins are good, but there is potential for more. Things can only get better, buy now QCKG has a good future.

strong report but guidance was weak (neutral)

24-Jul-06 05:55 pm

Posted by: InterestedStreetGuru

Analysts had lots of questions during the conference call as to why the guidance was weak given this Q was strong; their answers could have been better. The numbers weren't that bad; Still lots of growth yr/yr, but in this market if there is even a whiff of bad news, everyone fires first and asks questions later. It may just need to come down to how much of a gamble are you willing to take

Come and going (positive)

24-Jul-06 08:27pm

Posted by: Fill-the-Gaps

The time is now for Quickgames. They have been doing good, but growth is about to really take off. Not much guidance, but they are ready to deal with new competition. They hit some key expectations and the stock is going to be rewarded for it. Buy as quickly as possible.

This does not take a rocket scientist! (positive)

24-Jul-06 09:19 pm

Posted by: Fill-the-Gaps

With a boatload of cash, positive year over year growth prospects, and a competitive market 'first-mover' advantage, I'd wager a month's pension this is an easy 5 year double.

Future looks bright (positive)

24-Jul-06 11:51pm

Posted by: ForwardLooker

Quickgames has good potential. The value for the services is great. Where X-box 360 games cost approx. \$60 to buy, QCKG offers a variety of games for download starting at only \$5.99 a month. People are seeing this value, just look at the yr over yr subscriber growth and revenue.

My study compared changes in investment decisions between subjects who received message board postings and subjects who did not receive the postings. I further investigated differences between the control group and the individual message board group to determine if negative or positive postings have more influence.

RESULTS

Table 3 describes the amount of investment change in the four groups. The average change in investment was different across groups, with a p-value or level of significance below 0.05. The control group (no message board group) was compared with the three message board groups, and only the negative message board group was

significantly different (mean difference = -248.72, significant at the 0.05 level). Multiple comparisons performed at a 0.05 significance level found that the negative message board group was significantly different from all other groups and that the positive and mixed groups were significantly different from each other.

The results indicated that, for this particular stock, the negative postings had influence on the investor subjects but the positive postings did not. This is contrary to the SEC belief about the "pump and dump" model. The explanation could be the difference in the price of the stock. The stock in this study was originally purchased at \$17.37, and the current trading price was

Table 3: Investment Change

Group	N	Mean	Std. Deviation	Std. Error Mean
Control	24	33.33	240.772	49.147
Negative	26	-215.38	236.123	46.307
Positive	31	58.06	108.855	19.551
Mixed	29	-75.86	166.165	30.856

listed at \$23.76. Most of the “pump and dump” discussions have involved penny stocks (or very low-priced stocks).

Using a seven-point Likert scale to ask subjects their perception of the tone of the messages (1=positive, 7=negative), I conducted a manipulation check to verify that subjects receiving message postings viewed the postings correctly. The negative group averaged a score of 5.81, and the positive group averaged a score of 2.87. Table 4 provides the descriptive statistics for the manipulation check. The perceived tone between the negative and positive groups was significantly different ($t=8.469$, $p<.001$), and each group’s mean was significantly different from the midpoint of 4 (positive $t=-5.479$, $p<.001$; negative $t=6.269$, $p<.001$). I conducted further analysis to check for differences between universities, gender, and lab versus online and found no significant differences.

FUTURE STUDIES ARE NEEDED

It was hypothesized that message boards influence non-professional investors’ investment decisions. This study

found that only negative postings influenced this particular investment decision. Future studies should look further into the differences between positive and negative postings in relation to stock price. The SEC has initiated investigations based on individuals manipulating stock prices up through postings on message boards, and this may be a more serious case for lower-priced stock. This study provides evidence that, at least for similarly priced stocks, negative message board postings may be a concern because they caused subjects to decrease their investment. If postings from an unreliable anonymous source can cause investors to change their investment decisions, then more-credible rumors should have even more influence. Negative messages may be a result of short-sellers trying to drive the stock price down or individuals upset with the company.

There are many options for future research in this area. One option is to look at the effect of investing experience and expertise. Carson and Felton even cite cases where analysts admit to looking at message boards.³⁶ There may be a more serious problem if, unknowingly, postings influence expert investors.

Table 4: Positive Tone/Negative Tone
(1 = positive, 7 = negative)

Group	Mean	N	Std. Deviation	Median
Mixed	4.6207	29	1.42463	5
Negative	5.8077	26	1.47022	6
Positive	2.8710	31	1.14723	3
Total	4.3488	86	1.80044	4

Another area of interest may be to see whether investors are aware of the influence that a message has on them and why there is this influence.

As with most experimental research, there were limitations to this study. I only looked at one stock and provided only limited information to make the stock investment decision. There is a possibility that the lack of reliable information caused subjects to use the message boards, but, despite this lack of additional information, only the negative group was influenced by noncredible information. This provides evidence that it was the messages that influenced them rather than a lack of credible information. There should be additional studies done to investigate the differences of message board influence based on stock prices; this study was limited to one stock because this was only an initial investigation.

Despite various limitations, however, this study does provide valuable information to accountants and financial managers. While the general belief would be that information would have influence, this study found that only negative message boards caused investment change. This leads to the need for more research to better understand these influences so that:

- ◆ Investors can better understand the information they use to make decisions,
- ◆ Information providers can better understand what information investors need,
- ◆ Regulators can help protect investors, and
- ◆ Corporations can know how much time and effort they need to place in monitoring their message boards.

The next step is to figure out why this rumor-type information influences individual investors and how to mitigate potential damaging effects from negative message board rumors. ■

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