



## WHAT'S IN A NAME.COM?: THE EFFECTS OF '.COM' NAME CHANGES ON STOCK PRICES AND TRADING ACTIVITY

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*This paper uses a market signaling perspective to examine investor reactions to firm announcements of name changes to include '.com.' Firms that change their name as a purely cosmetic technique are contrasted to those that employ other strategic investments. Results show that announcements of '.com' name changes are associated with significant increases in stock prices and trading activity. Furthermore, the magnitude of investor reactions is significantly larger when name changes are accompanied by other strategies. Copyright © 2001 John Wiley & Sons, Ltd.*

When William Shakespeare wrote, "A rose by any other name would smell as sweet," he obviously wasn't talking about the Internet industry. More and more in the wired world, Internet companies are turning the Bard's ruminations on its head, betting that a new name will make an old company sweeter to investors.

- Nancy Beiles, Dow Jones Newswire,  
30 March 1999

A firm's name is infused with meaning and reputation, and identifies the firm to internal and external audiences. Conventionally, researchers have used organizational identity or institutional theory to understand firm names (e.g., Glynn and Abzug, 1998, 1999, Ingram, 1996), focusing largely on naming trends, and internal audiences or, in some cases, customers. The organizational identity literature distinguishes between organizational *identity*, what organizational members believe to be central, enduring, and distinctive (Albert and Whetten, 1985) and *image*, the way organizational members believe others see the organization, to gauge

how outsiders are judging them (Dutton and Dukerich, 1991). When there is a discrepancy between the firm's identity and image, managers may take actions to resolve that discrepancy (Gioia, Schultz, and Corley, 2000). A name change is one such action. Firms change their names to change their institutional identity internally and establish themselves as part of a different social group (Tajfel and Turner, 1979). In fact, studies have linked name changes to top management turnover (Glynn and Slepian, 1993) and organization survival (Ingram, 1996). However, little has been done to assess the effectiveness of the name change strategy as a way of changing the way outsiders perceive an organization's image. Examining stock price and trading volume changes is one way to gauge how successful these changes are to an important outside constituent, shareholders.

This study uses a market signaling perspective to link name changes to shareholder reactions because it highlights mechanisms by which information about firm identity can be passed on to investors. Signaling has been used to explain various phenomena including advertising (Nelson, 1970, 1974), product quality differentiation (Akerlof, 1970; Milgrom and Roberts, 1986), and a variety of corporate announcements (Asquith and

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Mullins, 1986). I use this perspective to examine changes in stock prices and trading volume of publicly traded firms that add a ".com" to their names. Theoretically, the signaling perspective contributes to the organizational identity literature by providing a lens and a methodology to gauge the success of managerial strategies, such as '.com' name changes, in influencing the way outsiders perceive a firm's image. A name change is one way managers attempt to resolve a discrepancy between organizational identity and image, and investor reactions can be seen as a way to gauge how investors judge their actions. Furthermore, the signaling perspective sheds light on the strength of signals from firms that also announce strategies consistent with their name changes (e.g., acquisitions of internet firms, or shutting down traditional bricks-and-mortar operations)—signals that should be reflected in the magnitude of the change in stock prices and trading activity. Methodologically, this study shows that in addition to stock prices, trading volume offers useful insights into shareholder reactions. Further, this study employs refinements to event study methodology that, with some exceptions, have not been used in management studies. Finally, this study analyzes an economic sector that some have argued challenges traditional notions of organizations and of economic activity (Krugman, 1999).

## THEORY AND HYPOTHESES

A firm's name is steeped in the history and context of the firm, often serving as a way in which legitimacy is granted by internal and external audiences (Glynn and Abzug, 1998, 1999). For example, Ingram (1996) showed that hotel chains are better off naming their units the same (e.g., Sheraton Atlanta and Sheraton Dallas), to create the potential for future business, rather than naming their units differently to achieve differentiation. The same name communicates a commitment to even one-time patrons because reputation affects the entire chain. More generally, firm names are tied to certain qualities and past performance (Tadelis, 1999). Names like Disney and Coca-Cola embody history, culture, brand identity, specific businesses, reputation, and other characteristics that require resources and years to develop (Fombrun and Shanley, 1990). Why then, do firms

change their names? And what do name changes convey?

The signaling literature shows that in situations of quality uncertainty, high-quality firms and individuals benefit from signaling that quality to their stakeholders. Akerlof (1970) linked quality uncertainty to an automobile purchase. Cars can be new or used, good or bad (a lemon). Prior to purchasing a car, a buyer does not know if the car is good or bad. After owning the car for a length of time, however, s/he can form an idea of the car's quality. Thus, sellers know more about the car's quality than buyers, resulting in information asymmetry. This information asymmetry is resolved if sellers signal quality to buyers through various mechanisms, such as warranties. This "lemons" problem can apply to all "experience goods," goods whose quality is impossible to verify until after the purchase (Nelson, 1970, 1974). In such cases, sellers need to signal quality to possible buyers. That is, if buyers have no knowledge of a product's quality, then all products in that product category look identical. To credibly signal quality, the signal needs to be costly to the seller (Milgrom and Roberts, 1986). A large advertising budget is one such signal (Nelson, 1970, 1974). Because high-quality products are either more likely to generate repeat buyers or have a higher initial sales price, firms would be willing to spend more on advertising. In turn, such firms are also able to charge either a premium for their products or generate repeat sales.

Signals need not be confined to quality issues. Indeed signaling theory has been applied to firm-level announcements to which investors may respond by buying or selling the stock (Asquith and Mullins, 1986). For example, firms can provide signals of future profitability by announcing proactive layoffs (Lee, 1997), or corporate social responsibility by withdrawing from South Africa (Meznar, Nigh, and Kwok, 1998). Such announcements can generate positive abnormal returns if investors foresee great potential in the firm's actions, or negative abnormal returns if investors disapprove of managerial decisions (Asquith and Mullins, 1986). Similarly, announcements of name changes can be interpreted as signals to investors, or as active managerial involvement in changing the firm's image. Firm names are double-edged swords that tie them to certain characteristics and industries (Glynn and Abzug, 1999). Firms change their

names to signal deviations from these characteristics, industries, business strategies, operations, and future prospects. The signaling perspective provides a method to assess how effective the name change strategy is for conveying these changes to investors.

### **Names and the internet**

During "Internet Fever" (Browning, 1999), when investors view the internet as crucial to how business will be conducted in the future, firms *want* to be identified with the internet. A ".com" suffix identifies a firm with the internet, sending a clear and unambiguous signal to shareholders and the general investing public about the universe in which a firm competes. As a result, small, otherwise unknown firms appear on the radar screens of investors interested in internet stocks (Beiles, 1999). Moreover, identification with the internet has a cachet which may help such firms acquire resources necessary for their growth and survival, such as personnel, venture capital backing or technological ties with other firms. Consequently, ".com" name changes are not confined to small firms and have been employed even by Egghead Inc., a relatively well known software chain.

Since internet firms may be perceived as having great potential, announcements of ".com" name changes are likely to be greeted with investor enthusiasm. This enthusiasm is likely to be reflected in increases in stock prices and trading activity. In particular, the direction of the stock price (up or down) serves as an indicator of shareholder approval or disapproval, while the level of trading activity serves as an indicator of the announcement's impact and the general level of interest in the firm's actions. If investors value the association with the internet and the business derived from it, ".com" name change announcements should result in an increase in investor interest. An increase in investor interest caused by a ".com" name change can also have positive consequences for other reasons. For small firms, the change can generate visibility and alert interested investors (Arbel, Carvell, and Strebler, 1983; Merton, 1987). Hence:

*Hypothesis 1: Stock price reactions to announcements of ".com" name changes will be positive.*

While an increase in stock price reflects shareholder approval, it does not necessarily reflect the level of shareholder interest because for every buyer there is a seller (i.e., prices may move even if there are only a small number of buyers and sellers). Enhanced visibility generated from the name change may increase liquidity for the stock, resulting in higher prices and trading volume (Gardiol, Gibson-Asner, and Tuchschild, 1997). Thus, I also predict that

*Hypothesis 2: Changes in trading volume to announcements of ".com" name changes will be positive.*

Signals need to be costly to be credible (Milgrom and Roberts, 1986). Name changes are costly, involving a legal name search to ensure that no other firm has already taken the name, shareholder approval, official filings of name and ticker symbol changes, and often, advertising that reflects the name change. Indirect costs, including the opportunity cost, commitment, and consequences of a cancellation or breach of commitment, can also be substantial (Williamson, 1983). The strength of the signal can be amplified by other costly voluntary actions.

Some firms add a ".com" to their name for cosmetic reasons, perhaps to acquire the cachet of an internet image. Other firms do so because their old names are obsolete, and no longer reflect their existing or future businesses. These latter firms are likely to undergo other strategic changes, such as acquisitions of internet-related assets and divestitures of non-internet related functions. For example, when Egghead became Egghead.com, it also shut down its remaining eighty stores, closed its distribution center and combined its management and operations with Surplus Direct, an internet company that it acquired (*Egghead.com, Inc.*, 1998).

Name change announcements that are accompanied by other strategies reinforce a commitment to the internet because the incremental cost of signaling is larger (Williamson, 1983). As a result, they provide shareholders with additional information about these strategic changes. Corporate actions that are consistent with an internet strategy give additional credibility to the signal of adding the ".com" suffix. A stronger message should be followed by stronger reactions in stock prices and trading activities. Thus,

*Hypothesis 3: The magnitude of abnormal returns to announcements of “.com” name changes that are also accompanied by other strategies will be more positive than those based solely on image.*

and

*Hypothesis 4: The magnitude of abnormal trading activity to announcements of “.com” name changes that are accompanied by other strategies will be more positive than those based solely on image.*

## DATA AND METHODOLOGY

### Sample construction

A sample of 114 “.com” name changes was obtained by examining announcements in the *Associated Press Newswires*, *Business Wire*, *Canada Newswire*, *Canadian Corporate News*, *Dow Jones News Service*, *Dow Jones Newswire*, *Knight-Ridder Tribune Business News*, *the New York Times*, *PR Newswire*, *The San Francisco Chronicle*, and *The Wall Street Journal* from January 1, 1995 to June 15, 1999. For other details, I contacted Investor and Public Relations departments, and used websites and quarterly reports. Since I examine stock prices and trading volumes of “.com” name changes, 15 name change announcements of private companies, and 17 non-“.com” name changes (e.g., firms that changed their names to include “.net”, “online”, “e”, and “i”) were deleted from the sample. Of the remaining 82 announcements, 5 were deleted because the firms were not public prior to the “.com” name change (i.e., initial public offering); 3 were deleted because the firms changed from one “.com” name to another “.com” name; 6 were deleted because the name changes were at the product or subsidiary level; 7 were deleted because of announced stock splits, or other confounding events within a three-day window around the announcement date; and 2 were deleted because stock returns were not available. This procedure resulted in 59 unique announcements. While I collected information on announcements that occurred from January 1, 1995 through June 15, 1999, the final sample contained announcements from the year 1998 and 1999. A list of the sample firms is shown in Table 1.

### Data sources and variable construction

#### Stock returns and trading volume

Typically, stock returns and trading volume data come from the Center for Research in Securities Prices (CRSP). However, “.com” name changes are a recent phenomenon, and require recent data not carried by CRSP. Moreover, many of the sample firms are traded on the Nasdaq OTC bulletin board. CRSP does not carry information on all of these firms. Thus, I obtained daily stock returns and trading volume data from *Datastream International*. Similar to CRSP, these stock returns were adjusted for dividends and stock splits. Trading volume is the number of shares traded each day. I confirmed the accuracy of return and volume data from *Datastream* with data from the *Dow Jones News Retrieval System* and *Bloomberg* for a random subsample of 12 firms. The data agree across all sources.

#### Reasons for the name change

Reasons for name changes have been identified from press releases and articles (see Glynn and Abzug, 1999). To identify such activity, I examined all articles on sample firms from the *Dow Jones News Retrieval System*, quarterly reports, and company websites for the year prior to the name change. Name changes that were preceded by internet-related acquisitions, closings of retail outlets, and alliances with other internet firms were classified as “strategic name changes.” Name changes for which no such activity could be detected were classified as “image only.” Two raters coded all cases and agreed on in 50 of the 61 cases, an interrater reliability of 82%. To reconcile coding differences, I re-examined news sources and all relevant articles.

#### Control variables

Age, size, and industry are important controls in this analysis. For example, a larger or older firm with a more established reputation may be less affected by a name change. Similarly, name change effects may be more pronounced for retailers than for finance firms. I use the number of days from the IPO to proxy for age and market value of equity prior to the name change as a measure of size. Industries are defined using 4-digit SIC codes

Table 1. Old name, new name, and announcement date of ".com" name change of sample firms

Old Name	New Name	Date
Alpha Microsystems	AlphaServ.com	01/20/99
Asset Retrieval	Creditgroup.com	02/01/99
Boraxx Technologies	QuadXSports.com	03/12/99
Bridgeport Communications	WealthHound.com	05/28/99
Cardiovascular Laboratories Inc.	CLIXhealth.com	03/25/99
Cellular Vision, USA	SpeedUs.com	12/21/98
Charter Investor Relations of North America	Millionaire.com	12/16/98
Comgen Corp.	Planet411.com	02/10/99
Computer Literacy Inc.	Fatbrain.com	03/29/99
Connect Inc.	ConnectInc.com	12/15/98
Didax Inc.	Crosswalk.com	05/05/99
e-Casino Gaming Corp.	e-Vegas.com	06/04/99
Eduverse Accelerated Learning Systems	Eduverse.com	06/07/99
Egghead Inc.	Egghead.com	01/28/98
First Virtual Corp.	FVC.com	07/30/98
Formquest International	MegaChain.com	04/19/99
Freepages Group	Scoot.com	02/22/99
FSGI Corp.	TMANGlobal.com	12/22/98
Genesis Reservations Systems	Netcruisetravel.com	02/11/99
GoodNoise Corp.	EMusic.com	06/02/99
Group V Corp.	TotalAxcess.com	05/17/99
HHHP Inc.	Wcollect.com	02/12/99
Home Care America	BizRocket.com	06/07/99
Interactive Processing Inc.	Worldtradeshow.com	03/17/99
International Barter Corp.	Ubarter.com	04/27/99
IPVoice Communications Inc.	IPVoice.com	04/19/99
JetFax, Inc.	EFax.com	02/03/99
Medirisk Inc.	Caredata.com	06/03/99
MIS International	Cosmoz.com	01/15/99
Modacad Inc.	Styleclick.com	06/01/99
Motorcycle Centers of America	eUniverse.com	04/15/99
New York Bagel Exchange Inc.	Webboat.com	02/01/99
Okane International	Superwire.com	04/28/99
OneStopCar of Florida	OneStop.com	04/14/99
Ozone Technology	Envisen.com	05/13/99
PetMed Express Inc.	PetMedExpress.com	04/08/99
Phon-Net Corp.	Phon-Net.com	06/14/99
Pivot Rules Inc.	Bludefly.com	10/29/98
Prosoft I-Net Solutions	ProsoftTraining.com	09/18/98
RDI Marketing	HouseholdDirect.com	03/17/99
RLD Enterprises	Go-Rachels.com	01/28/99
RNL Realty, Inc.	Netmaximizer.com	03/11/99
Score Medical Corp.	iMatters.com	03/22/99
Shop TV	Site2shop.com	02/11/99
Sloan Electronics	SalientCyber.com	04/20/99
Software.net Corp.	Beyond.com	08/25/98
Spectrum Information Technologies	Siti-Sites.com	12/17/98
Staruni Corp.	Ubid4it.com	04/06/99
SUNCOM Telecommunication	VirtualSellers.com	05/04/99
SyCo Distribution Inc.	SyCoNet.com	02/03/99
Tao Partners	i-Net Visionz.com	05/13/99
Technology Horizons Corp.	CKDNET.com	12/01/98
TeleServices International Group, Inc.	TSIG.com	03/02/99
Tel-Save Holdings	Tel-Save.com	11/16/98
The Henley Group	CIS.com	03/31/99
USA BancShares	USAABanc.com	05/12/99
Virtual Brand Inc.	Ubrandit.com	03/03/99
Westergaard Online Systems, Inc.	Westergaard.com	01/13/99
ZapPower Systems	ZapWorld.com	05/18/99

obtained from the Compustat Active and Research Files.

## Methodology

### *Non-parametric event study methodology*

Standard event study methodology is common in finance and strategy (e.g., Asquith and Mullins, 1986; Lee, 1997; Meznar *et al.*, 1998). This sample, however, required several non-typical modifications. First, most event studies deal with large firms and use the S&P 500 or the value-weighted CRSP market index to compute abnormal returns. To provide a more appropriate benchmark, I used the Nasdaq Composite Index and the Nasdaq Computer Index to compute abnormal returns. Second, to control for industry effects, I subtracted an equally-weighted portfolio return for the industry (Teoh, Welch, and Wazzaan, 1999). The industry return was computed for all firms in the same 4-digit SIC code, excluding sample firms. Third, because many of these firms are traded infrequently, the assumptions of standard event studies are violated. In contrast to heavily traded securities, thinly traded securities are characterized by numerous zero and large non-zero returns. This results in non-normal return distributions, implying that the traditional test statistics are not well-specified (Cowan and Sergeant, 1996). Also, Nasdaq firms exhibit a higher frequency of zero returns than firms listed on NYSE and AMEX (Campbell and Wasley, 1993). Accordingly, I used two non-parametric test statistics, the generalized sign test and the rank test (Cowan, 1992; Cowan and Sergeant, 1996).

The generalized sign test examines whether the number of stocks with positive CARs exceeds the number expected in the absence of abnormal performance. The expected number of positive returns was determined from the pre-event period ( $\hat{p}$ ). The test statistic uses the normal approximation to the binomial distribution and is calculated as:

$$Z_{Sign} = \frac{w - n\hat{p}}{\sqrt{[n\hat{p}(1 - \hat{p})]}}$$

where  $w$  is number of stocks with positive CARs and  $n$  is the sample size. The rank test makes no distributional assumptions and is robust to infrequent trading (Corrado, 1989). It is estimated by first calculating abnormal returns for

the pre-event and event period and then ranking returns on each day. Missing returns (from infrequent trading) are adjusted for by dividing each rank by the number of non-missing returns in each firm, plus one. The statistic is then calculated as:

$$Z_{Rank} = \frac{1}{\sqrt{n}} \sum_{j=1}^n (U_{j0} - 0.5)/S_U$$

where  $U_{j0}$  is the rank of the return on day 0.  $S_U$  is the standard deviation and is calculated as:

$$S_U = \sqrt{\frac{1}{101} \sum_{t=-100}^0 \left[ \frac{1}{\sqrt{N_t}} \sum_{j=1}^{N_t} (U_{jt} - 0.5) \right]^2}$$

where  $N_t$  is the number of non-missing returns across the stocks in the sample on day  $t$  of the pre-event and event period. This statistic has been used by Meznar *et al.*, (1998).

### *Trading volume methodology*

Trading volume methodology is less developed, and theory provides little guidance as to appropriate benchmarks or techniques (Tkac, 1999). One technique is to compare trading volume in the event period to the non-event period, much like stock price event study techniques (e.g., Shleifer, 1986). I calculated the average trading volume in the pre-event period (days -100 to -10) and compared it to the event-period for each firm. A ratio of event period volume to non-event period trading volume is calculated as:

$$Abnormal\ Volume\ Ratio_t = \frac{Volume_t}{Avg\ Volume_{-100,-10}}$$

where  $t = -1, 0$  and  $+1$ , corresponding to the event period. Under the null hypothesis of no change in trading volume, this ratio will be equal to one. *T*-tests and Wilcoxon Rank tests are used to test whether the mean or median is different from one (not zero).

### *Event window*

An event window refers to the days around the event date. A short window usually captures the significant effect of an event (McWilliams and Siegel, 1997). A longer window introduces noise.

As a result, abnormal returns and trading activity are estimated with greater error, reducing the power of test statistics. Since multiple sources have been used to pinpoint the exact date of the announcement, I use a short three-day window ( $-1, +1$ ) around the event, that is the day before (day  $-1$ ), the day of (day 0), and day after ( $+1$ ) the announcement.

Table 2. Cumulated abnormal returns ( $-1, +1$ ) for announcements of ".com" name changes for full sample of firms, image only, and other strategies subsamples

	Full Sample	Subsample: Image Only	Subsample: Strategic Name Changes
Raw (Unadjusted) Returns	N = 59	N = 31	N = 28
Mean	173.03%	36.14%	330.19%
Median	9.05%	5.60%	11.70%
Percent of positive returns	77.19%	76.67%	77.78%
Generalized sign test	4.58***	2.20***	2.56***
Rank-test	4.63***	2.15***	2.45***
P-value of test of differences in medians across subsamples (Medians Test) = 0.001			
Nasdaq Composite Adjusted Returns	N = 56	N = 29	N = 27
Mean	167.85%	29.83%	316.09%
Median	2.70%	-0.49%	4.71%
Percent of positive returns	57.14%	48.27%	66.67%
Generalized sign test	3.96***	0.85	2.23***
Rank-test	3.87***	0.91	2.19***
P-value of test of differences in medians across subsamples (Medians Test) = 0.001			
Nasdaq Computer Index Adjusted Returns	N = 56	N = 29	N = 27
Mean	167.91%	29.81%	316.24%
Median	1.56%	-0.15%	8.29%
Percent of positive returns	57.14%	48.27%	66.67%
Generalized sign test	3.91***	0.92	2.16***
Rank-test	3.93***	0.87	2.24***
P-value of test of differences in medians across subsamples (Medians Test) = 0.001			
Industry Adjusted Returns	N = 56	N = 29	N = 27
Mean	168.24%	29.75%	316.97%
Median	2.63%	-0.44%	4.70%
Percent of positive returns	58.14%	48.27%	66.67%
Generalized sign test	3.89***	0.99	2.30***
Rank-test	3.85***	0.88	2.35***
P-value of test of differences in medians across subsamples (Medians Test) = 0.001			

\*\*\*  $p < 0.001$ , \*\*  $p < 0.01$ , \*  $p < 0.05$ , †  $p < 0.1$

$-1, +1$  window, and the percentage of abnormal returns that are positive.<sup>1</sup>

The mean CAR using the Nasdaq Composite Index is 167.85%. The results are similar using the Nasdaq Computer Index and after industry adjustments. Compared to most event studies, these returns are much higher and suggest that the high returns in one or two firms with low initial stock prices drive the means. For example, Millionaire.com's stock price was less than \$0.25 on day  $-2$ , rose to \$4.125 on day  $0$ , and rose even higher to \$10 on day  $+2$ . The return from day  $-2$  to day  $+2$  is 3900%. This skewed distribution implies that tests based on the normal distribution may not be appropriate. Median returns provide a more accurate image of the stock price changes. Using the Nasdaq Composite Index, the median CAR over the  $-1, +1$  window are a significant 2.70% using the Nasdaq Composite Index. Nasdaq Computer Index adjusted and industry adjusted median day  $0$  returns and CARs are similar, providing support for Hypothesis 1.

Hypothesis 3 posits that the abnormal returns for ".com" name change announcements that are accompanied by other strategies will be more positive than for those based solely on image. Table 2 also shows CARs for the two subsamples. The results show substantial differences between the two subsamples. The Nasdaq Composite Index adjusted mean CAR (median) return is 29.83% ( $-0.49\%$ ) for the image-only subsample and 316.09% (4.71%) for the other strategies subsample. The Nasdaq Computer Index and industry adjusted results are similar. The generalized sign test and rank test show that these median returns are significant. A medians test, which does not require that the two distributions be symmetric or normally distributed, is used to test for differences in the two subsamples. This test rejects the hypothesis that the median returns for the two subsamples are equal with a p-value less than 0.001 across all of the adjusted returns. Thus, Hypothesis 3 is supported.

### Trading volume

Hypothesis 2 states that changes in trading volume to announcements of ".com" corporate name

changes will be positive. Hypothesis 4 predicts that the magnitude of abnormal trading activity to announcements of ".com" name changes that are accompanied by other strategies will be more positive than those based solely on image. Table 3 shows trading volume ratios on day  $-1$ , day  $0$ , and day  $+1$  for the full sample of firms and for the image only and other strategies subsamples. Because extreme values influence the means, medians are also presented. For the full sample, the mean trading volume ratio for day  $-1$  is 29.11, suggesting that compared to average trading volume (1.00), trading volume increases 29-fold on day  $-1$ . The mean trading volume ratio is 35.73 on day  $0$ , and rises to 66.94 on day  $+1$ . These large trading volume ratios are driven by firms with very low trading volume in the pre-event period. Thus, median ratios provide a more accurate picture. The median trading volume ratio on day  $-1$  is 1.16, but this increases to 2.34 on day  $0$ . This positive change from day  $-1$  to day  $0$  is exhibited in 55.56% of the firms in the sample and is significant (sign-rank test). On day  $+1$ , trading volume ratio continues to rise to 2.39, suggesting that this is not a one-day phenomenon. These results support Hypothesis 2.

Table 3 also shows the distribution of trading volume ratios for both subsamples. Trading volume rises substantially on the announcement day for both subsamples. On day  $0$ , the mean trading volume ratio is 12.53 for the image-only subsample and 67.99 for the other-strategies subsample. The difference in the medians is less dramatic, with 1.94 for the image-only subsample and 3.76 for the other strategies subsample. Trading activity continues to be high (above 1.0) the day after the announcement. A medians test shows that the difference between the two subsamples is significant at the  $p < 0.001$  level, providing support for Hypothesis 4.

### Robustness

I perform a number of checks to ensure the robustness of the results. First, inferences about differences in stock returns of the two subsamples can be misleading due to "low-price effects" (e.g., Conrad and Kaul, 1993). That is, percentage changes in stock prices are larger for low price stocks because stock price movements are discrete or a \$0.50 increase for a \$50 stock is a 1% return but is a 100% for a \$0.50 stock.

<sup>1</sup> The sample size drops to 56 because there were not enough returns in the pre-event period for 3 firms to obtain reliable estimates of  $\alpha$  and  $\beta$ .

Table 3. Trading Volume Ratios to ".com" Name Change Announcements for Full Sample, Image-only and Other Strategies Subsamples

Full Sample, N = 55	Day -1	Day 0	Day +1
Mean	29.11	38.21	66.84
Median	1.16	2.34	2.39
Minimum	0.00	0.00	0.00
Maximum	1394.43	890.00	2518.70
Δ Vol (-1, 1), percent of positive Δ in trading volume	55.56%		
Sign-Rank test of ΔVol = 0	281.00***		
Subsample: Image Only, N = 30			
Mean	2.70	12.53	12.75
Median	1.07	1.94	1.54
Minimum	0.00	0.00	0.00
Maximum	21.33	246.46	246.46
Δ Vol (-1, 1), percent of positive Δ in trading volume	41.38%		
Sign-Rank test of ΔVol = 0	31.00		
Subsample: Strategic Name Changes, N = 25			
Mean	60.80	67.99	131.74
Median	1.41	3.76	3.06
Minimum	0.00	0.00	0.00
Maximum	1394.43	890.00	2518.70
Δ Vol (-1, 0), percent of positive Δ in trading volume	72%		
Sign-Rank test of ΔVol = 0	82.00**		
Wilcoxon-Rank-Sum- test for equality of Δ in trading volume (-1,0) for 2 subsamples: 1.85*			
Medians test for equality of Δ in trading volume (-1,0) for 2 subsamples: 2.43***			

\*\*\* p < 0.001, \*\* p < 0.01, \* p < 0.05, † p < 0.1

Since many of the sample firms are small, this may influence the tests of differences across the subsamples. To check for this, I examined the distribution of prices for both subsamples. The mean pre-announcement price is \$4.11 for the image only subsample and \$5.11 for the other strategies subsample. Since the average price of the other strategies subsample is *higher*, price changes should produce lower, not higher returns. Thus, the

low-price effect does not account for the differences in the two subsamples.<sup>2</sup>

Second, recent evidence in financial economics suggests that the explanatory power of CAPM  $\beta$ 's used in event studies is low (see Fama, 1997, for a survey of this literature). Even if  $\beta$  understates risk, however, such an understatement is unlikely to influence the results presented in this paper; the sheer magnitude of the abnormal returns is so large that enormous risk premiums would be required to eliminate these abnormal returns.

Third, firm characteristics such as age and size may jointly influence the stock price reactions. To check for this, I estimated a multivariate regression with Day 0 abnormal returns as the dependent variable, and the logarithm of firm age, the logarithm of firm size, and name change type (i.e., dummy variable coded 0 for image only and 1 for other strategies) as independent variables. The results show that even after controlling for industry, age, and size, ".com" name changes that are accompanied by other strategies are significantly more positive (with a t-statistic of 1.80) than image-only name changes, providing support for Hypothesis 3. These robustness checks are not reported in separate tables in the interest of brevity but are reassuring in that the basic empirical results remain unaltered.

It is also possible that this phenomenon simply reflects irrational behavior on the part of investors in the midst of an internet-induced "bubble" in stock prices. While that is certainly a possibility (some would argue this is an actuality), the bubble argument does not explain why there would be a difference in abnormal returns to the image only versus strategic name change subsample. Regardless, to determine if irrational behavior can account for the difference between the subsamples, I calculated long-run holding period returns for the sample firms after the name change. This long-run return can be viewed as a "buy-and-hold" return, that is, a return that an investor would earn from buying the stock and holding it for the designated

<sup>2</sup> Announcement returns may be large simply because information is generated about previously neglected firms. To see if this was the case, I collected routine earnings announcements by these firms over a one-year period prior to their name change announcements. I used the prior year to ensure that the announcements were not contaminated by news regarding the name change. I also checked for confounding events in the earnings announcements. This sample of 62 announcements had a mean CAR from day -1 to day +1 of -0.8% and a median CAR of -2.0%. Neither was statistically significant.

period of time (Conrad and Kaul, 1993). Since only a short period of time has elapsed since the end of the sample period, I only calculated holding period returns for up to one year after the name change. For a substantial portion of the sample, however, this one-year period includes returns during and after April 2000. This is important since there was a dramatic decline in stock prices in general and especially for technology stocks from April onwards. Results show negative long-run returns for both subsamples. This is not surprising given the decline in technology stock prices since April. More interesting, however, is the fact that the decline in prices of the image only subsample is substantially larger than that of the strategic name changes subsample. For example, the mean one-year abnormal holding period return for the image only subsample is  $-70.65\%$  whereas the mean for the strategic name changes subsample is  $-7.17\%$ . These results are consistent with the event study evidence and add credence to the signaling theory-based hypotheses presented earlier in the paper.<sup>3</sup>

## DISCUSSION AND CONCLUSION

This study examines the relationship between firm identity and shareholder reactions in the context of ".com" corporate name change announcements. In doing so, it begins with the premise that organizational names serve as indicators of firm identity, and that announcements of ".com" name changes carry information signals that may result in abnormal returns and trading activity. Using a signaling perspective, I hypothesize that ".com" name changes result in increases in stock prices and trading activity. When name changes are accompanied by other strategies the signaling value is greater, and should correspond to greater increases in stock price and trading volume. The signaling perspective extends the organizational identity literature by providing a lens and a methodology to assess the effectiveness of differing managerial strategies

(such as a ".com" name changes that are accompanied by consistent strategies and those that are not) to change the way outsiders perceive a firm's image.

The results show substantial increases in stock prices and trading volume when firms add a ".com" suffix. This suggests that ".com" name changes convey important information to the investing public about the firm's group and social identity. Investors appear to respond enthusiastically to ".com" name changes because of the association with a growing and potentially lucrative sector of the economy—the internet. Indeed, two studies that examined stock price reactions to non-".com" name changes found much smaller abnormal returns. Horsky and Swyngedouw (1987) found a significant  $0.61\%$  abnormal return while Karpoff and Rankine (1994) found an insignificant  $0.4\%$  return to the announcement of non-".com" related name changes. This contrast suggests that it is the association with the internet that generates high abnormal returns.

Furthermore, the results distinguish between image-only name changes and strategic name changes. On day 0, strategic name changes exhibit adjusted median returns of around  $14\%$ , and more than a threefold increase (3.76) in trading volume. In contrast, image-only name changes exhibit adjusted median returns of about  $5\%$  and a  $1.94$  median trading volume increase. Thus, stronger messages are accompanied by stronger reactions, providing strong support for the signaling perspective. Westphal and Zajac (1998) found positive investor reactions ( $2.00\%$  abnormal return) to adoptions of long-term incentive plans, regardless of actual implementation. Consistent with their study, I find positive abnormal returns for both the image-only and the strategic name changes subsamples, suggesting that ".com" name changes can be a form of symbolic management. However, in this study, the actual implementation matters. That is, investor reactions are more positive when firms incur substantial costs in signaling changes in strategic direction. In other words, the market is not easily "fooled" by cosmetic changes in firm names. The evidence shows that managerial decisions that are backed by other strategies provide a stronger signal and that the market signaling perspective provides a way of understanding the link between managerial actions and shareholder reactions.

<sup>3</sup> There has been debate about the measurement, accuracy, and validity of long-run returns, but buy-and-hold returns are a widely accepted technique. Moreover, because they reflect actual investor experiences, they serve as a useful metric in establishing the robustness of the event study evidence (see Fama, 1997, for details and references to studies that explore methodological issues).

## Limitations and implications for future research

This study raises the question of faddishness and market efficiency. Is the internet just a fad? Are stock price reactions to “.com” name changes a reflection of inefficient markets? Stock prices of all internet firms may be irrationally high. Related to this, Sahlman and Stevenson (1985) studied capital market myopia, a state in which investors ignore the logical implications of their decisions, resulting in overfunded industries and unsustainable valuation levels. Using the case of Winchester disk drives, their study argued that investment mania occurs when investors make implicit assumptions about long-run growth and profitability derived from individual firms, and can result in an industry shakeout and a subsequent collapse of stock prices. The internet hype may fit the characteristics of this scenario. Indeed, the general decline in technology stocks in the second quarter of 2000 has led many observers to this conclusion. However, only the benefit of hindsight allows one to distinguish between “reasonable” valuation and investment mania. Tests on stock returns up to one year after the name change show two things. First, there is a general decline in stock prices for the entire sample after the name change announcement effect. This overall decline implies that it is difficult to draw unequivocal conclusions about whether the announcement day stock price changes reflect “true” changes in future profitability through the internet or simply investment mania, particularly since one year hardly provides much by way of hindsight. These “long-run” tests are clearly preliminary—sufficient time needs to elapse before one can draw firmer conclusions on the subject. This provides opportunities for future research. Second, the subsample returns show that the subsequent decline in stock prices is much larger for the image only subsample than the strategic name changes subsample. This evidence is consistent with the results of the event study and suggests that the signaling effects of the name change are valid and persist.<sup>4</sup>

These characteristics also raise the issue of generalizability. After all, one possible reason that

“.com” name changes are tied to positive abnormal returns and trading volume is the cachet associated with the internet. This cachet may be similar to other trends (e.g., globalization), management fads, or fashions (Abrahamson, 1996). Furthermore, Glynn and Azbug (1999) suggest that names may have temporal popularity—that is, isomorphic pressures and the evolution of names may make the “.com” naming strategy popular now. These trendy names may run the danger of sounding outdated in the future. Nonetheless, the internet remains in a nascent stage, continues to thrive and evolve despite the recent decline in stock prices, and appears to be an integral part of future business. It therefore provides ample opportunities for future research. So what’s in a name.com? For management researchers, plenty.

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<sup>4</sup> In a contemporaneous working paper in finance, Cooper, Dimitrov, and Rau (2000) also examined the stock price effects of dot-com name changes. However, their interest is purely from a market efficiency perspective in that they seek to determine whether these stock price effects constitute an “anomaly”.

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