Opening M&A strategy to investors: Predictors and outcomes of transparency during organizational transition

Abstract

Our study theorizes and tests why organizations engage in practices of open strategy and the share-price related outcomes associated with these practices. Drawing from literature on information asymmetry, we suggest that organizations that depart from their existing strategy or deviate from industry norms are more likely to open up their strategy in order to escape negative evaluations by analysts and scrutiny by investors. We further investigate how the stock market responds to these practices of open strategy. In a dataset comprising of a sample of 472 M&A deals and 886 associated corporate voluntary communications over a five-year period, we find that the likelihood of organizations engaging in open strategy practices is associated with the degree to which an organization's strategy differs from industry norms, but is not associated with how much it varies from its existing one. Regarding organizational outcomes of open strategy, we illustrate that increasing the transparency of M&A strategy to investors through voluntary communications can bring share-price related benefits of up to 2.7 percent, an average of $321 million in market capitalization. Our research contributes to literature on open strategy, information asymmetry, and managing M&A.

Key words: Open strategy; M&A; information asymmetry; strategic variation and deviation; voluntary M&A announcements

Introduction

A recent movement within strategic management has begun to advance 'open strategy' as an umbrella concept that envelopes open innovation and other open forms of strategy making (Whittington, Cailluet, and Yakis-Douglas, 2011). Whittington et al. (2011) describe open strategy as "a concept involving a bundle of practices, the mix varying across contexts" (p.535). The opening of strategy is the result of organizations' movement towards widening inclusion and increasing transparency both inside and outside the boundaries of organizations (Whittington et al., 2011). While existing research provides examples of what these bundles of practice are (i.e. blogging, jamming, strategy presentations, crowd-sourcing), it only infers the value openness brings to an organisation in terms of widening the search for strategy ideas, sharing knowledge and engaging in strategic conversation. It does not provide empirical evidence of the reasons for why organizations engage in open strategy or the organizational outcomes associated with these practices. We believe that understanding why organizations choose to open up their strategy and what happens when they do so furthers our understanding of this concept and helps us derive practice-related outcomes. We therefore focus on a specific form of open strategy in a highly critical strategic context: namely, external transparency during mergers and acquisitions (M&A). M&A are very widespread in the business world, accounting for more activity in dollar terms than many of the world's largest economies[1]. For organisations, M&A can mean life or death.

There are several reasons why open strategy can play a critical role during M&A. The strategic direction of an organization comes under intense scrutiny from

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[1] 2014 M&A global activity at $3.5 trillion exceeded the GDP of France ($2.9trl - the 5th largest economy in the world)

outside constituents (Gilson, 2000). For instance, stakeholders may possess many concerns for the future of the protagonists and it is well reported in the financial literature that information about impending M&A can move financial markets (see Sudarsanam, 2010 for a review). Apart from the deal premium, issues such as potential synergies between organizations entering the deal, integration issues, and restructuring plans may be specific investor concerns (Angwin, 2001). Also, given the lengthy time period that M&A can span, investors may be nervous about deal completion (Angwin, 2004, 2015). External transparency during M&A can act as a mechanism to ease possible investor anxiety regarding the process and the outcome of the deal.

Compared to the process and the timeline of the deal, of equal importance is the ability of analysts and investors to interpret and evaluate the M&A (Zenger, 2013). Organizations which adopt 'unique' strategies have been shown to be penalized by negative market reactions (Feldman et al., 2014; Litov et al., 2012; Zenger, 2013). These negative market reactions may be explained by the existence of information asymmetry between managers of organizations and outside investors (Gilson, 2000). Specifically investors' lack understanding of the value of an acquirer's strategy (Feldman et al., 2014), narrow specializations by analysts (Zuckerman, 1999), and numerous cognitive limitations attached to covering diversified firms or firms with unique strategies (Feldman et al., 2014; Litov et al., 2012) result in depressed share prices.

Drawing from information asymmetry theory (Ambarish et al., 1987; Miller and Rock, 1985; Myers and Majluf, 1984), we hypothesize and test the likelihood of, and outcomes for organizations undertaking M&A engaging in open strategy. We suggest that a fundamental difference in the pattern of present and future resource deployments

is likely to act as a reason for financial analysts to publish unfavorable earnings forecasts or not to cover the organization. Both of these scenarios are likely to lead to negative share price reactions and these negative reactions are likely to be heightened during acquisitions (Haleblian et al., 2009). Our hypotheses are therefore built on the premise that organizations are likely to be motivated by, and succeed in, offsetting existing or anticipated negative market reactions by opening their strategy externally.

We therefore argue that organizations are more likely to be engaging in forms of open strategy during M&A to reduce information asymmetry. Amongst M&A we also argue that due to information asymmetry and its negative consequences, organizations with strategies characterized by greater strategic variation and deviation are more likely to be externally transparent. They are likely to move away from being opaque in an attempt to alter negative portrayals of analysts or to fill the voids left by analysts that do not issue earnings estimates after an organization has announced a merger or acquisition.

In order to study open strategy in an M&A context we examine M&A announcements during the deal process. These announcements come in two types; 'involuntary' and 'voluntary.' There are many studies of 'involuntary' (those required by law) announcements (Andrade, Mitchell and Stafford, 2001; Goergen and Renneboog, 2003) that are required when a deal is to be launched. In these studies a 25% increase in target company share price is not uncommon (Baker and Limmack, 2002; Sudarsanam and Mahate, 2003). However 'voluntary' announcements (those made when a company decides on its own volition to design and release information) have received much less attention and those that occur post-deal announcement have received no attention. These communications, which we term 'voluntary M&A announcements' and define as public, voluntary communications carried out by

organizations involved in M&A are the subject of this paper. Separate from the initial M&A announcements, these disclosures take place after the initial deal announcement and before its closing. Authors of these announcements can be bidders, targets, or both parties. Between deal announcement and the closing date, an intended acquisition can be made or broken by share price adjustments as investors react to deal-specific information released during this post-announcement period. Therefore, during M&A, top management teams of firms that are undergoing strategic variation or deviation are likely to try to win support for their strategy through increased transparency directed at analysts and investors. By focusing on share price reactions tied to voluntary M&A announcements, we measure how external forms of open strategy can be employed by organizations to manage short-term market responses during M&A rather than the eventual economic returns of the deal itself (Oler, Harrison, and Allen, 2009).

A shift towards open strategy and asymmetry reduction implies an active orientation to shaping investor perceptions. It offers a choice about both whether and how to communicate. External forms of open strategy in the M&A context are in line with what Rindova and Fombrun (1999) have termed 'strategic projections', the various kinds of statements about intended strategy (i.e. published in corporate press releases and annual reports). Open strategy, therefore, contributes to how audiences evaluate a firm and allocate the resources they control. Similar to strategic projections, practices associated with external forms of open strategy not only offer information about strategic investments, but also have additional symbolic content in providing ready-made and desirable interpretations of strategic moves for key audiences (Whittington and Yakis-Douglas, 2012). Our research focus therefore is not on the compulsory, non-discretionary forms of communication required by law that involves strategy (i.e. mandatory M&A announcements) but rather on voluntary, discretionary

communications of strategy (i.e. voluntary M&A announcements). Existing research suggests that these voluntary announcements have symbolic and reputational value for analysts and investors and that they are used widely by established organizations and entrepreneurs (Vaara and Monin, 2010; Zott and Huy, 2007; Rindova et al., 2006). Our research takes this one step further to move beyond the symbolic value of voluntary corporate communications and assesses the market value associated with them.

Our paper proceeds as follows: we first discuss open strategy in the context of M&A, emphasizing that open strategy can help combat or enhance information asymmetry. We then build our hypotheses using literature on information asymmetry and construct predictions on the likelihood of, and outcomes associated with observing organizations with strategic variation and deviation carrying out voluntary M&A announcements. After our hypotheses, we present our data and methodology, followed by the results. The final section includes our discussion and conclusion in which we address possible outcomes of open strategy in practice as well as limitations of the study and directions for future research.

Theory and hypotheses

Our research focus is on the external transparency aspect of open strategy. More specifically, our research falls into one of the four broad principles of open strategy identified by Whittington et al. (2011): namely, external transparency. Traditionally, strategy has been 'secret' – elitist and opaque. Keeping strategy undisclosed can be associated with numerous advantages such as avoiding imitation, protecting product, design, or market-related advantages, and to being able to exercise the element of surprise (Makadok and Barney, 2001). Indeed, managers may suffer from strategic disadvantages if they uncover all information about a particular strategy (Barney,

1986). In many cases, organizations can benefit from their managers possessing more information about the value of asset bundles than market participants (Rumelt, 1984). While organizations may suffer from strategic disadvantages if their managers uncover all information about a particular strategy, asymmetry regarding strategy in certain situations can disadvantage firms (Zuckerman, 2004). Our context of M&A is one such instance where opacity can cause an announced deal to be tied to negative share price reactions or to ultimately fail. One well-publicized instance of M&A failure widely attributed to strategic opacity was the failed bid by the Deutsche Boerse AG for the London Stock Exchange in 2004. Making the acquiring firm's strategy transparent to investors can be important to managing share price reaction and/or enable deal completion. We expand upon these in the rest of this section.

There is plenty of evidence drawing attention to the high level of information asymmetry that exists between outside stakeholders and inside managers (Zajac, 1990; Shen and Cannella, 2003; Zhang, 2008; Graffin et al., 2011). M&As are associated with information asymmetry because choices regarding the upcoming deal are typically opaque, and information about M&A choices is rarely shared (Gomes et al. 2012).). M&A information is market sensitive and the process is characterised by secrecy (Reuer, Tong & Wu, 2012; Boeh, 2011).

Following earlier research (see for example, Finkelstein and Hambrick, 1990; Geletkanycz and Hambrick, 1997; Haynes and Hillman, 2010), we use the patterns of strategic resource allocation as an indicator of strategic persistence of firm strategies over time as well as conformity to industry norms. Finkelstein and Hambrick (1990), building on Mintzberg's (1978) definition of strategy as a pattern of managerial decisions, constructed a strategic resource allocation profile. Their measure consists of six dimensions that represent the firm's strategic decision pattern over time. Carpenter

(2000), and more recently Haynes and Hillman (2010) further develop these six measures to account for two aspects: 1) strategic variation, a change 'in the pattern of a firm's resource commitments over time, relative to its past pattern,' and 2) strategic deviation, a shift away from the 'firm's resource commitments from industry norms of competition' (Carpenter, 2000: 1182; also in Haynes and Hillman, 2010).

It is widely accepted that managing third-party perceptions is an important task for both sides in a merger or acquisition; for instance Trautwein (1990) notes that "(M&A) need marketing just like products, and effectively addressing the public or regulatory institutions in (M&A) may be critical to its success" (p. 293). In the context of M&A, open strategy can act as a force that both increases and reduces information asymmetry. Furthermore, communicating a shift in current strategy is likely to be important for managers because voluntary M&A announcements can help reassure the investors regarding the future plans associated with the upcoming M&A, help investors evaluate the organizations' strategic prowess in handling issues such as intended integration, restructuring, reorganization, and allow investors to get hold of substantive new information such as employee retention intentions and promises. M&A processes often unfold in ways that the financial press, analysts, and investors do not have access to full information surrounding the new deal. Due to these information failures, shareholders who are already highly sensitive to organizational changes are likely to be facing evaluative uncertainty regarding the M&A deal (Gomes et al. 2013). We believe voluntary M&A announcements may help reduce evaluative uncertainty overall but they are likely to be most effective in situations where there is a high degree of strategic variation from existing strategy or deviation from industry norms.

We suggest that while M&A is a context associated with high information asymmetry, both strategic variation and strategic deviation are circumstances that add

to the ambiguity of organizations' future strategic direction. Organizational leaders that show high degrees of strategic variation from their existing strategy are more likely to engage in voluntary M&A announcements in an attempt to manage shareholders' evaluative uncertainty. Therefore:

> **Hypothesis 1a:** *The probability of observing voluntary M&A announcements is higher for organizations that display greater strategic variation compared to organizations that display lower strategic variation.*

Similarly, strategic deviation from other organizations within the industry is likely to discourage analysts from issuing positive earnings announcements or optimistic purchasing advice. As visible and high-reputation third parties, analysts play a significant part in how outside stakeholders evaluate M&A deals by providing these stakeholders with independent assessments. However, they have narrow areas of expertise, mainly focused on single or few industries. This narrow expertise can mean that analysts will have difficulty translating organizational strategies that do not comply with industry norms. Therefore, in an attempt to shield themselves from unfavorable forecasts, organizations that have M&A strategies that fall outside of industry norms are more likely to engage in open strategy. In a context associated with information asymmetry, these open strategy practices are in turn likely to result in favorable stock market reactions. Hence:

> **Hypothesis 1b:** *The probability of observing voluntary M&A announcements is higher for organizations that display greater strategic deviation compared to organizations that display lower strategic deviation.*

M&A announcements can both increase and reduce information asymmetry: Initial announcements of M&A are events that introduce information asymmetry to markets. However, voluntary disclosures following the initial announcements reduce

information asymmetry. While in the case of the announcement of M&A there are share price penalties especially for highly diversified firms, there may also be unfavorable outcomes associated with voluntary M&A announcements. These may occur for organizations experiencing a shift from their ongoing strategies or strategies that deviate from those within the industry. In order to mitigate this effect, organizations need to convey credibility to their investors and analysts regarding their M&A plans, as failure to do so may result in negative share price reactions.

Attempts at reducing information asymmetry may therefore be associated with negative investor reactions unless those organizations display competence and credibility towards their shareholders. Evaluating an organization's strategy in the early stages of M&A is difficult not only because it involves attributing future organizational activities to possible performance outcomes (Haleblian and Rajagopalan, 2006), but also because strategy involves qualitative judgments, which by their nature, are highly uncertain (i.e. they are characterized with having a lack of complete information and future unpredictability). According to Wade et al. (2006), when qualitative judgments need to be made under conditions of uncertainty, certification by credible and legitimate third parties is likely to become an influential decision criterion. Financial analysts are likely to act as third-party certification providers for outside stakeholders that serve to reduce the evaluative uncertainty associated with M&A. In the absence of 'standards or yardstick against which (an organization) is judged' (Graffin and Ward, 2010), analysts are likely to take into account the voluntary disclosures of organizations as sources of information. Analysts' recommendations, further, are likely reduce the uncertainty that outside constituents face in evaluating deals. Outside investors are likely to pay attention to analysts' forecasts during M&A due to the important role these

actors play as independent and credible information intermediaries (Wiersema and Zhang, 2012). Thus:

>**Hypothesis 2a:** *Voluntary M&A announcements will be associated with above-average cumulative abnormal returns for organizations that display greater strategic variation compared to organizations that display lower strategic variation.*

>**Hypothesis 2b:** *Voluntary M&A announcements will be associated with above-average cumulative abnormal returns for organizations that display greater strategic deviation compared to organizations that display lower strategic variation.*

Methods

Data

Our dataset comprises of M&A deals involving U.S. target and U.S. bidder organizations within the period 01/01/2005-31/12/2010. Because we are interested in the voluntary communications that take place after the announcement of M&A and before the closing of the deal, we eliminated all deals in which the announcement and the closing of the deal were simultaneous (there were 276 in total). We included deals that met the following criteria: (1) a deal value of $50 million or above; (2) the deals were completed by the end of our sample (31/12/2010); (3) the transaction is for a majority of shares of the target firm (above 50%); (4) we exclude hostile takeovers, leverage buyouts, spin-offs, recapitalizations, self-tender offers, exchange offers, repurchases, minority stake purchases, and privatizations; (5) were not financial organizations (SIC codes outside of 6000-6799); (6) both target and bidder organizations trade in NYSE or NASDAQ; (7) to asses a relationship between likelihood of disclosure and strategic variation and deviation, we follow McWilliams and Siegel (1997) to make sure our data is free of confounding events such as

declarations of dividends, unexpected earnings or losses, major contract awards, new product announcements, and significant liability suits during a 21-day window (from day -10 to day +10) around voluntary M&A announcements. Our source for these events was StreetEvents. We collected deal-related data using MergerMarket regarding all relevant target and bidder data along with all related external communications associated with the deal. In total, there were 472 deals and 886 external communications.

Dependent variables

We carry out two regressions to investigate the drivers and consequences of open strategy. The first one is a logistic regression analysis where the dependent variable is the probability of observing a given organization carry out a voluntary M&A announcements. We carried out binary coding for voluntary M&A announcements, coding '1' for deals in which either of the parties (separately or jointly) carried out a voluntary disclosure regarding the deal. In this regression, our unit of analysis is 'the deal' rather than a given organization.

The second regression's dependent variable is the cumulative abnormal returns (CAR) (-1,+1) associated with voluntary M&A announcements. This dependent variable is designed to measure share price reactions associated with the voluntary disclosures and therefore our unit of analysis is the voluntary disclosure. The objective of our study is to analyse stock price responses to practices of open strategy through employing event study methodology (Brown and Warner, 1985; McWilliams and Siegel, 1997). Event studies are very common within both the strategic management (Narayanan *et al.,* 2000; Gulati *et al.,* 2009; Capron and Pistre, 2002) and voluntary disclosure literatures (Healy and Palepu, 2001). In this study, we treat stock price responses as measures of voluntary M&A announcements impress investors in the

short-term; given the long-term and complex nature of M&A, we do not interpret stock price responses as necessarily effective measures of eventual economic returns (Oler, Harrison, and Allen, 2008).

Thus we treat voluntary M&A announcements as events liable to generate abnormal returns in the financial market (McWilliams and Siegel, 1997). We calculate CAR using a market model for each firm with an estimation window and calculate the deviation using expected returns and actual returns for every firm (source: Datastream). We use a NYSE and NASDAQ equally weighted index that indicates price trend movements based on a broad cross-section of the market. To estimate the market model, we use the 260 trading day prior to the event window as the estimation window (MacKinlay, 1997). The length of the period in our study is consistent with prior studies in the management literature (McWilliams and Siegel, 1997)**.** To calculate CAR, our main analysis uses a short event window of 3 days (t= -1 to +1), measuring immediate investor impressions. Long windows may include confounding effects that lead to false inferences about the significance of an event (McWilliams and Siegel, 1997). The -1 day allows for leakage of information prior to the presentation itself (Schijven and Hitt, 2012). For our model estimation, we used a static linear panel data model where *CARit* is the cumulative abnormal return for firm *i* for event *t*.

Independent variables

Our two independent variables are strategic variation and strategic deviation. Strategic variation is a measure of a departure from prior firm strategies and strategic deviation is a divergence from industry norms. These two continuous, multi-item measures were developed by Finkelstein and Hambrick (1990) and modified by Carpenter (2000) and more recently employed by Haynes and Hillman (2010). We

follow Carpenter (2000) and Haynes and Hillman (2010) in using a composite measure

of six allocation ratios. These are: (1) advertising intensity (advertising/sales); (2) R&D

intensity (R&D/sales); (3) plant and equipment upgrades (new plant and

equipment/gross plant and equipment); (4) nonproduction overhead (SG&A

expense/sales); (5) inventory levels (inventory/sales); (6) and financial leverage

(debt/equity). We collected data for these measures using COMPUSTAT. Some data

for calculating ratios was missing in COMPUSTAT due to lack of reporting. Thirty-

two observations were dropped due to missing data.

To measure strategic variation, we followed Carpenter (2000) and Haynes and

Hillman (2010) in creating an index that uses a combination of exponential smoothing

and Euclidean distance calculations. Different to the two mentioned works, however,

our focal year varied with each organization and within observations that included deals

which took over a year to complete, we calculated these for multiple years for a given

organization and took the average. For each deal, we calculated the actual resource

allocation figures for bidder organizations and using exponential smoothing, calculated

the baseline strategic variation for each bidder organization for t-4 to t (the year that the

M&A deal took place). Earlier researchers who have employed the same method of

metrication have suggested that a five-year window (t-4 through t) is sufficient to

establish a variation pattern and narrow enough to exclude variations in the external

environment. To account for major variations that may influence the environment, we

control for the 2008 financial crisis. We then added all ratios that had gone through

exponential smoothing in order to obtain a composite forecasted strategic variation for

the given year. We repeated this exponential smoothing for all years. To calculate the

divergence of an organization's actual resource allocation profile from the forecasted

resource allocation profiles (of previous five years), we took the differences of the

exponentially smoothed, forecasted amount and the actual resource allocation ratios. We took the absolute value of these differences and normalized them through taking the natural log. The resulting calculations were the divergence of firms' actual resource allocation profiles from the forecasted ones.

Strategic deviation (departure from industry norms) was calculated similar to strategic variation, only this time we calculated the absolute value of industry norm and the firm's actual resource allocation ratios. To establish industry ratios, we used the top four firms in each industry based on the C4 measure of industry concentration (Dobrev et al., 2002). Once again, we follow Carpenter (2000) and Haynes and Hillman (2010) in calculating these ratios, and normalized our variable by taking the natural log of the differences.

Our measures strategic variation and strategic deviation take into account the combined entity that comes into existence as a result of the deal. To identify these deals, we carried out t-tests to compare strategic variation and strategic deviation measures for each (target and bidder) organization before and after the deal. In our analysis, we code these variables as binary for those deals that resulted in both the target and the bidder to undergo significant departures (at least $p<0.05$) from their existing strategies or divergence from their main industry's existing norms.

Control variables

We introduced a variety of control variables for factors that were likely to impact on the likelihood of organizations to engage in open strategy and likely to have an influence market reactions. All of the control variables are used as proxies for contexts/events associated with a vacuum of information that would leave investors hungry for information. We therefore controlled for high-reputation intermediaries,

which we believe may be instrumental in facilitating organizations to communicate. We used binary codes to distinguish organizations that employed legal advisors in the magic circle[2], financial advisors in the bulge bracket[3], and white shoe consultants[4]. To take into account any possible effects of the financial crisis, we coded communications after 24 October 2008 as '1' for 'after the crisis.' We also suggest that likelihood of disclosure is higher for organizations subject to greater information failures, e.g. if the deal value is small relative to the acquirer, in turnover terms, then there may be less need for protagonists to communicate to the markets as the effect of the deal on the acquirer will be limited. We use the log-adjusted deal value for taking size-related information asymmetries into consideration. Also, following Zhang and Rajagopalan (2010), we controlled for prior firm performance by calculating the industry-adjusted ROA in the prior year. For poor prior firm performance we calculated 1/(prior firm performance). Data sources for deal size was MergerMarket and the source for prior firm performance was COMPUSTAT. Finally, for each model, we included dummy variables for main industry and each year of our study period, and controlled for the order of the voluntary M&A announcements (i.e. whether it was the first announcement following the initial announcement of the deal, whether it was the second etc.).

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[2] Legal advisors in the magic circle for the UK: Allen & Ovary , Freshfields Bruckhaus Deringer, Linklaters, Slaughter and May; For USA: Arnold & Porter; Cadwalader, Wickersham & Taft; Cravath, Swaine & Moore; Covington & Burling; Davis Polk & Wardwell; Debevoise & Plimpton; Dewey & LeBoeuf; Hogan & Hartson; Latham & Watkins; Milbank, Tweed, Hadley & McCloy; Ropes & Gray; Shearman & Sterling; Sidley Austin; Simpson, Thacher & Bartlett; Sullivan & Cromwell; White & Case; Willkie Farr & Gallagher; WilmerHale.

[3]Financial advisors in the bulge bracket: Dillon, Read & Co.; Swiss Bank Corporation; UBS ; First Boston ; Credit Suisse ; Kuhn, Loeb & Co.; Lehman Brothers ; Merrill Lynch ; Bank of America ; Salomon Brothers ; Travelers Group ; Bank of America Merrill Lynch; Barclays Capital ; Citigroup ; Deutsche Bank ; Goldman Sachs ; JPMorgan Chase ; Morgan Stanley ; Lazard Freres & Co. ; Goldman, Sachs & Co. ; N M Rothschild & Sons

[4] White shoe consultants: Bain & Company; Boston Consulting Group; McKinsey & Company; A.T. Kearney; Booz & Company; Arthur D. Little; Monitor Group

Statistical analysis

Our statistical anlayses is two fold: First, we used a logistic regression analysis to test the likelihood of organizations carrying out voluntary disclosures regarding M&A after the deal was announced, and before the deal was closed. Second, we carried out another regression with CAR associated with voluntary M&A announcements as our dependent variable. Our unit of analysis for our first regression is the deal and that of the second regression is the voluntary M&A announcement.

The objectives of Hypotheses 1a and 1b are to test the probability of a given organization engaging in external forms of open strategy if they are undertaking an M&A deal that results in departure from its existing strategy or divergence from industry norms. We estimated the likelihood that an organization would engage in practices associated with open strategy using the following logistic regression model:

$$PR(OS_{ijt} = 1) = F(\beta_1 StrDev_{ijt} + \beta_2 StrVar_{ijt} + \beta_3 X_{ijt} + \delta Z_t + \varepsilon_i) \quad (1)$$

where *i* represented firm *i, j* represented deal *j,* and *t* represented year *t*. OS_{ijt} was the dependent variable, X_{ijt} was a matrix of controls, and Z_t a dummy to account for unobserved changes in M&A trends.

The goals of Hypotheses 2a and 2b are to establish whether there are any stock price responses associated with voluntary M&A announcements. We calculated abnormal returns using a market model for each firm with an estimation window. The deviation was calculated using expected returns and actual returns for every firm[5]. The model to capture CAR was:

$$R_{it} = \alpha_i + \beta_i R_{mt} + \varepsilon_{it} \qquad E[\varepsilon_{it}] = 0 \text{ and } Var[\varepsilon_{it}] = \sigma_{\varepsilon_{it}}^2 \qquad (2)$$

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[5] Source: Datastream

We used the NYSE and NSDQ equal-weighted index as the index of market portfolio which indicates the price trend movements based on a broad cross-section of the market. In order to calculate the expected return over the t= [-1, +1] event window, we used the coefficient found from regression (2). Inferences about the cumulative abnormal returns were drawn using the formula below to test the null hypothesis that the abnormal returns are zero:

$$\overline{CAR}(\tau_1, \tau_2) \sim N[0, var(\overline{CAR}(\tau_1, \tau_2))] \qquad (3)$$

For our estimation model, we used a static linear panel data model where *CARij* is the cumulative abnormal return for firm *i* for event *j*. Because we use an event study methodology for our second regression, we follow McWilliams and Siegel (1997) by also screening out confounding events such as declarations of dividends, other mergers and acquisitions, earnings announcements, major contract awards, new product announcements, and significant liability suits during a 21-day window (from day -10 to day +10) around the voluntary M&A announcements (source: Factiva). 82 voluntary M&A announcements were excluded as a result.

Before carrying out our study, we inspected the values of variance inflation factors (VIF) to assess our data for multicollinearity. The VIF values ranged between 1.22 and 2.97 for the variables in our regression models, which is lower than the commonly accepted threshold value of 10 (Hair, Anderson, Tatham, and Black, 1998) and suggests that multicollinearity is not a problem in our data.

Results

Our purpose is to test the likelihood and stock-price related outcomes of organizations engaging in open strategy through corporate voluntary communications targeted at financial analysts and their investors undergoing M&A. Our analysis

therefore proceeds as follows. Table 1 presents descriptive statistics and correlations. In Table 2 we display the results of two regressions: In Models 1a, 2a, 3a, and 4a we carry out a logistic regression analysis in which the dependent variable is the probability of a given organization carrying out voluntary M&A announcements. In Models 1b, 2b, 3b, and 4b we carry out a regression analysis which has a dependent variable in the form of cumulative abnormal returns associated with voluntary M&A announcements. In both cases our two independent variables are strategic variation and strategic deviation. Our control variables comprise of contexts or circumstances associated with information asymmetry.

Insert Table 1 and Table 2

Table 2 provides the stepwise logistic regression analysis. Models 1(a-b) and 2(a-b) consider the impact of our independent variables on the likelihood of organizations engaging in open strategy individually: only one of our independent variables is associated with the likelihood of disclosure. The subsequent models (3(a-b) and 4(a-b)) introduce successively the combined effects of independent and control variables. For the logistic regression analysis, three control variables (i.e. financial advisors in the bulge bracket, prior firm performance, and deal size) are significant (at least $p<0.10$) for estimating the likelihood of organizations engaging in open strategy. Model 4a drops non-significant control variables (i.e. legal advisors in the magic circle, white shoe consultants, after 2008). Our final model for the logistic regression analysis is significant at $p<0.005$. For calculating market reactions associated with open strategy, we find that only financial advisors is a significant control variable ($p<0.1$). The final model for estimating CAR associated with voluntary M&A announcements is significant at $p<0.01$.

We start with hypothesis 1a, which states that the probability of observing voluntary M&A announcements is higher for organizations that display greater strategic variation compared to organizations that display lower strategic variation. Model 4a in Table 2 indicates that for organizations whose strategy is associated with a shift over time, the likelihood of having an open M&A strategy is no different to those that do not have changes taking place regarding their strategy (coefficient: 0.05; $p>0.1$; standard error (SE): 0.00). However, in testing for hypothesis 1b, we find in Model 4a that having a strategy that is characterised with having a deviation from industry norms increases the likelihood that organizations will engage in external transparency (coefficient: 1.07; $p<0.005$; SE: 0.00). This suggests that strategies that vary over time do not encourage organizations to be transparent towards analysts and investors during M&A but a deviation from industry norms does increase the likelihood that they will. We therefore find support for hypothesis 1b but not for 1a.

Hypotheses 2a and 2b test for the above-average share price reactions associated with voluntary M&A announcements for organizations whose strategies are characterised with strategic variation and strategic deviation. Model 4b displays the results for these tests: we find that CAR associated with open strategy practices for organizations that are moving away from their existing strategy as a result of the M&A deal is significant at $p<0.1$ (coefficient = 0.02; SE: 0.00). For organizations that are deviating from existing industry norms, CAR is significant at $p<0.05$ (coefficient = 0.03; SE: 0.00). At the mean of our sample, this consists of $321 million in market capitalization. We therefore find weak support for hypothesis 2a and moderately strong support for hypothesis 2b.

We turn now to control variables associated with greater information asymmetry. Regarding the conditions of heightened information asymmetry, we found that the

likelihood of organizations engaging in open M&A strategy is greater where organizations have hired financial advisors in the bulge bracket, were undertaking large deals, and where the former firm performance was poor. Logistic regression coefficients for these variables were 0.73 ($p<0.1$), 0.67 ($p<0.05$), and 0.87 ($p<0.05$). For share price related outcomes, we find that only the involvement of financial advisors in the bulge bracket makes a difference to how investors evaluate voluntary M&A announcements (regression coefficient was 0.01, $p<0.1$).

Regarding effect sizes, we calculated Cohen's d (the standardized mean difference). Our effect size calculations for our dependent and control variables in models 4a and 4b vary between 1.42 and 0.62 indicating strong or moderate effects (Cohen, 1988).

Discussion

M&A are substantial and hard to reverse strategic commitments involving great financial investment and considerable managerial and organizational resources. However purchasing a specific firm may be associated with share price penalties and between announcing and closing a deal many things may go wrong (Angwin 2015). For the companies involved an important question arises as to whether, and to what extent they ought to engage in acquisition related communications to investors in order to persuade them to back the deal. In other words to what extent should protagonists engage in open strategy practices?

In this paper we argue that increasing transparency through acquisition announcements can help inform investor decisions in order for M&As to proceed. With the exception of a very few papers (for example, Loree, Chen, and Guisinger, 2000), research into M&A has so far overlooked post-announcement voluntary corporate communications. These acquisition announcements are forms of open strategy and can

be instrumental in reducing information asymmetry between outside investors and internal managers. While there is existing research on M&A that focuses on information asymmetry between these two parties, it focuses on reactions of investors to acquisition announcements (see for example, Ragozzino and Reuer, 2007; 2009; 2011; Reuer, Tong, and Wu, 2012) rather than announcements following the announcement of the deal. We believe that by shedding light onto voluntary acquisition announcements following the initial mandatory bid communication, we are addressing an important gap in terms of how investors evaluate strategy talk (Whittington & Yakis-Douglas, 2012) but also how organizations can actively manage their M&A process. Furthermore, the majority of the literature on information asymmetry during M&A focuses on the information asymmetry between two parties undergoing the deal (for example Boeh, 2011; Hennart and Reddy, 2000; Laamanen, 2007; Zaheer, Hernandez, and Banerjee, 2010) rather that between external constituents and internal managers. Our research not only addresses how, through open strategy, organizations can help reduce information asymmetry towards their investors, but also towards analysts. Having alerted investors to the intention to takeover or merge with another company, this powerful set of stakeholders searches for information to help them decide whether to buy, sell, or hold onto stock of the companies involved. In this process they may look for evidence in corporate communications for credibility or economic viability (Narayanan et al., 2012) associated with the success of the transaction.

In investigating why organizations engage in open strategy, we find that organizations whose M&A strategy deviates from the industry are more likely to be engage in voluntary acquisition announcements. In being open about their M&A strategy organizational leaders may be reacting to the fear that analysts may downgrade their stock due to their own cognitive limitations or evaluative uncertainty from

investors. Communicating intention can act as a powerful signal for investors particularly as the firm and management stand to lose something, such as reputation, should the promise not work out (Besanko et al. 2004). The reduction in uncertainty attendant on reducing information asymmetries increases the willingness of shareholders to pay more for the company's stock (Bassen et al, 2010; Healy and Palepu, 2001).

We also find that there is little difference in the occurrence of M&A announcements between firms with high and low strategic variation. This suggests that senior management feel much less need to issue voluntary M&A announcements when the deal in question is a variation in firm resource deployment but not different from resource deployments across the industry. This suggests that investors are less sensitive to the history of firm resource deployment than whether a firm is departing from industry norms. The message therefore is that when a firm is likely to stand out from the crowd in its M&A, it needs to engage more in open strategy in order to reduce investor uncertainty. There may also be an argument to say that even when an M&A will cause a firm to vary its resource deployment in a way that departs from past practice, it may be better for management not to alert investors to this variation, taking the view that investors are likely to compare the deal against an industry 'benchmark'. Open strategy then maybe wise when departing from the 'wisdom of the crowd', and perhaps not desirable when conforming to industry norms as this might arise suspicions.

Our research is not without limitations: first, we focus only on the U.S. market but organizations that undertake cross-border M&A deals are also likely to engage in open strategy. Also, the likelihood of disclosure may be higher for organizations that experience negative share price reactions to their initial announcements of acquisitions announcements and therefore these voluntary disclosures may act as attempts to adjust

market reactions. Finally, our research focuses on open strategy as an orchestrated and proactive practice carried out by organizations to alter external stakeholders' perceptions. There may, however, be circumstances in which outside stakeholders or constituents can be influential in altering strategy outside of organizational leaders' intended forms of involvement. Recent longitudinal qualitative research by Ferraro and Beunza (2014) illustrates that shareholder dialogue leads to corporate change. The authors follow analysts in corporate investor meetings and find that activist analysts are powerful influencers of strategy and other corporate issues. Besides directed efforts of analysts towards influencing strategy, analysts can also play an important role in how organizations shape their strategy to escape stock market pressures and negative evaluations (Litov et al. 2012). Therefore strategy, once again, becomes prone to changes or alterations that are in line with ways in which analysts and investors can evaluate them without difficulty (Zuckerman, 2004; Zenger and Benner, 2015). Finally, there may be other forces in play such as rumors that also influence how organizations shape their strategy (Hannigan and Yakis-Douglas, 2014). The examples that we have provided are all examples of how external constituents can be influential in shaping organizational strategy. However, they differ from the purposive (i.e. proactive, intended) forms of external open strategy mentioned in Whittington et al. (2011). Activist analysts, investor perceptions, and rumor communities influencing organizational strategy are all examples of emergent forms external open strategy. In the figure below, we display how the matrix in Whittington et al. (2011) can be extended to include an additional quadrant (see Figure 1) to add nuances to forms of open strategy. While our research focuses on purposive forms of external open strategy, future research could investigate these emergent forms of open strategy and how

external stakeholders can become constituents of open strategy without organizations'
intended practices to be transparent towards them, or to include them.

Insert Figure 1

Our research has methodological, conceptual, and practice-related
contributions: Methodologically, our quantitative approach employing a large dataset
over five years contributes to statistical generalization regarding our phenomena under
study. Conceptually, we study open strategy and more specifically transparency as a
move for organizations undergoing strategic transition in contexts where opacity may
pose problems for organizational leaders. In terms of practice-related outcomes, we
suggest skillful release of timely strategic information, the type of content that is
released, and the actors that are involved in carrying out voluntary M&A
announcements may provide advantages for organizations.

Conclusion

Our research sheds light on circumstances in which organizations engage in open
strategy during M&A. We show that the likelihood of organizations engaging external
transparency is high for those that have strategies that depart from industry norms but
not for those that have strategies moving away from their own norms. The reasoning
behind this is likely to be tied to organizational leaders' efforts to escape potential or
existing share price penalties. These unfavorable outcomes may be driven by analysts
who cannot understand an organziation's strategy due to their own cognitive
limitations. While both strategic variation and strategic deviation are forms of strategic
change, clearly one is seen as a circumstance that organizations associate with
ambiguity or evaluative uncertainty while the other is not. Our findings suggest that
organizational leaders are aware that strategic openness is necessary when departing
from industry norms, against which they are being judged, and also that strategic

openness might not be desirable, even when the organization is departing from past behavior as long as it is within industry parameters. In this sense, our findings suggest that strategic openness is not always a positive force for organizations and contribute to the idea that strategic openness is 'uneven and incomplete' (Whittington et al., 2011) in different settings. We also provide a more nuanced understanding on how organizations in different strategic settings put the transparency aspect of open strategy into practice.

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Table 1
Descriptive statistics and correlations

		Means	Std. Dev.	1	2	3	4	5	6	7	8	9
1	**Voluntary M&A announcements**	1.82	0.43	1								
2	**Strategic variation**	-0.97	-0.54	0.13	1							
3	**Strategic deviation**	0.86	0.38	0.37	0.21	1						
4	**Legal advisors in the magic circle**	0.73	0.19	-0.01	0.03	0.08	1					
5	**Financial advisors in the bulge bracket**	0.89	0.23	0.19	0.05	0.09	0.17	1				
6	**Consultants – white shoe**	0.94	0.15	0.04	0.01	0.04	0.13	0.11	1			
7	**After 2008**	0.64	0.27	-0.27	0.09	-0.05	0.02	0.03	0.02	1		
8	**Deal size ($MM ln)**	3.22	0.31	0.11	0.23	0.19	0.10	0.09	0.18	0.07	1	
9	**Prior firm performance**	0.11	0.21	0.13	0.19	0.23	0.10	0.14	0.17	0.09	0.07	1

N=472. Correlations above 0.15 are significant at $p<0.05$.

Table 2
Regression 1(Models 1a, 2a, 3a, 4a): Logistic regression with dependent variable as the probability of observing a given organization carrying out voluntary M&A announcements
Regression 2 (Models 1b, 2b, 3b, 4b): Regression with dependent variable as the cumulative abnormal returns (-1,+1) associated with voluntary M&A announcements

	Model 1a	Model 1b	Model 2a	Model 2b	Model 3a	Model 3b	Model 4a	Model 4b
Intercept	17.41 (0.03)	0.04 (0.12)	87.66 (0.04)	0.03 (0.10)	127.95 (0.02)	0.03 (0.11)	307.58 (0.18)	0.07 (0.06)
Main effects (hypotheses)								
Strategic variation	0.08 (0.00)	0.02* (0.00)			0.03 (0.00)	0.01† (0.00)	0.05 (0.00)	0.02† (0.00)
Strategic deviation			1.22*** (0.00)	0.04** (0.00)	1.03*** (0.00)	0.02* (0.00)	1.07*** (0.00)	0.03* (0.00)
Control variables								
Legal advisors in the magic circle	0.13 (0.00)	0.00 (0.08)	0.08 (0.00)	0.00 (0.05)	0.15 (0.00)	0.00 (0.06)		
Financial advisors in the bulge bracket	0.57† (0.00)	0.02* (0.00)	0.63† (0. 00)	0.02† (0.00)	0.71† (0. 00)	0.01† (0.00)	0.73† (0.00)	0.01† (0.00)
Consultants – white shoe	0.02 (0. 00)	0.00 (0.09)	0.01 (0. 00)	0.00 (0.11)	0.04 (0. 00)	0.00 (0.08)		
After 2008	-0.11 (0. 05)	0.00 (0.12)	-0.07 (-0. 03)	0.00 (0.10)	-0.18 (-0. 04)	0.00 (0.14)		
Deal size ($MMln)	0.55* (0.04)	0.00 (0.16)	0.61* (0.01)	0.00 (0.08)	0.59* (0.02)	0.00 (0.07)	0.67* (0.00)	
Prior firm performance	0.62† (0. 00)	0.00 (0.04)	0.71† (0. 00)	0.00 (0.12)	0.83* (0.00)	0.00 (0.13)	0.87* (0.00)	
Observations	472	886	472	886	472	886	472	886
Chi sq.	25.69*	14.41†	29.48**	16.33†	35.48***	23.16*	43.88***	33.21**

†p<0.10; *p<0.05; **p<0.01; ***p<0.005; ****p<0.001. Standard errors in parentheses. All models include year fixed, industry, and order effects.

Figure 1

Purposive and emergent forms of open strategy

	Transparency	**Inclusion**	
Internal			
External	*Focus of the present study* Voluntary M&A announcements**:** public, voluntary corporate communications carried out by organizations involved in an M&A (bidders, targets, or both) which take place *after* the initial announcement and *before* the closing of the deal		**Purposive**
	i.e. activist investment analysts (Ferraro & Beunza, 2014); analysts' evaluations, stock market pressures (Litov et al., 2012)	i.e. rumor communities (Hannigan and Yakis-Douglas, 2014)	**Emergent**

(Figure adapted from Whittington et al., 2011 p.762)