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Financial Gain and Ethical Cost

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Information leaks before CEO change: financial gain and ethical cost

When CEOs change, typically enormous amounts of investment and capital changes hands. A new leader's name is a 'financial event' to which the stock market responds strongly. When, for example, Coca-Cola announced the replacement of its long-serving CEO, Mukhtar Kent, by its chief operating officer, James Quincy, its share price went up nearly 3%. Importantly, CEO change announcements have been found to move the market value of the firm irrespective of the more substantive reasons (or even crises) that caused such a leadership change in the first place. The market seems to treat such reasons as mere background information to the personalities (Graffin et al., 2011). CEO change can therefore be regarded as a critical event in corporate life.

Research (Rhim et al., 2007) furthermore suggests that an unanticipated announcement of leadership change seems to move markets more than when a CEO succession is simply the last step of a lengthy, planned process, since the capital market would have already factored that information into pricing (Denis & Denis 1995; Shen & Cannella, 2003). However, results are unclear about the causes and effects (as well as their direction) of unanticipated leadership change on investors' behaviour and therefore on the market value (Graffin et al. 2011). There have been both increases and decreases in the volume of stocks traded immediately after a leadership succession announcement, and the same can be said of the stock price (Havemann, 1993; Wiersema, 1995; Zajac, 1990; Rhim et al., 2007). So, even though it is hard to predict *how* shareholders will react (positively, negatively, or neutrally), there is extant research to suggest that they *do* (Khurana 2002; Cuellar-Fernandez et al., 2010) when they hear about a corporation's new top leader.

Therefore, if an investor were to have prior knowledge about an impending leadership change, large fortunes could be made (Pound & Zeckhauser, 1990). This would however be an ethical and legal breach: Market abuse while in possession of non-public, market-moving information is a crime in the EU, including the UK. The US also penalizes investors who intentionally misappropriate and use confidential information for their gain.

A sizeable literature finds a strong relationship between insider knowledge and insider trading, especially just before good corporate news announcements (Lakonishok & Lee, 2001; Korczak et al., 2010). The way for corporations to contain such risk (and opportunities for crime) is by keeping a closed lid on market-moving information (like impending CEO change) often with non-disclosure prohibitions, while making broad announcements to all market participants once the time comes (Graffin et al., 2011; Cuellar-Fernandez et al., 2010; Hooijberg & Lane, 2016). ”By disclosing more, precise and complete information in a timely and transparent manner, companies reduce the amount of private information while simultaneously increasing the amount and quality of public information available to investors” (Van Geyt et al., 2013: 3).

Information about CEO change that is not in principle accessible by all damages not just competition, but markets altogether (Rose, 1951; Stiglitz, 2000). Two developments of this decade make the likelihood of such damage large. Firstly, CEOs change more often than in any previous decade; secondly, financial markets can respond faster to information than ever before, mostly due to their automation and the use of algorithms.

In any given year about 20% of global Fortune 500 companies change their CEO. The risk of leaks is particularly high when the successor is an insider (either a senior manager or a board member) with deep connections into the corporation and its stakeholder network, as personnel changes are often the most prevalent topic of informal management communication (Cannella & Lubatkin, 1993; DiFonzo & Bordia, 2000).

Today's stock trading has moved away almost entirely from human traders. Instead, financial markets consist of computers trading with computers at 'superhuman speed' (Angel, 2014). Algorithmic trading in particular, often used by funds and brokerages, can incorporate nearly any information that it has been programmed to monitor and analyse without there being any human involvement to place orders and trades (Zhou et al., 2019: 27). This means that analysable information leaks can move markets within microseconds, if they have been set as a relevant parameter for an algorithm. Financial markets could therefore change the market value of firms that are about to undergo leadership change in around 300 microseconds (Ding et al., 2014).

Existing research about leaks from corporations has established somewhat of a taxonomy of the nature of leaks described by Dimitrov (2018): depending on their intended effect, leaks may be strategic when they create value for the organization, or subversive when they destroy it. Reich (2008) describes how he found the dominant strategic leakers are senior sources inside an organization or with an affinity to it. As described by Hess (1996), such leaking may have personal reasons (ego, positive credit with media), but often reasons linked to policy-making, policy-testing or the disruption of a competitive organization's policy. Nevertheless, senior insiders' leaks are not exclusively strategic: Bourne (2017) describes how - once the age-old problem arises where an agent is insufficiently connected with a principal - an organization (or its members like communication officers) might collude with senior leaders to leak news benefitting them (the agent), but not the organization (the principal) and thus become subversive.

A third type of leak emerging from earlier research is of the type unintended by those inside the organization. Traditionally these have been explained as aberrant behaviour by 'honest employees' who are 'social animals' with a 'human need to bond and connect' (Sussman, 2008: 333) and exacerbated by the networks and speed of modern-day information technology (Johnson & Dynes, 2007). Today's prevalence of data as cues, make it more likely that leaks are the result of tracking, spyware or other forms of surveillance, or even intrusion (Paterson, 2013; Zuboff, 2019). In this paper we exclude such breaches from and into the organization from our investigation and focus only on leaks originating within the organization.

Moreover, the authors take a deontological view in this paper that *any* leak prior to CEO change has an ethical cost. It is accepted that in practice the tools available to organizations and their communication professionals to avoid and remedy information leaks are calibrated according to the nature of the leak, especially as some leaks may actually create value for the company and thus seemingly not put communication professionals in any ethical dilemma. However, the authors maintain that the ethical responsibility of those charged with communication cannot be so calibrated because *any* market-moving information that is not in principle accessible by all, damages not just competition, but markets altogether (Rose, 1951; Stiglitz, 2000).

The authors of this article therefore propose that market-moving information leaks about CEO changes need to be urgently investigated for their impact on markets and their ethics. Furthermore, their impact can best be researched using a framework that draws the connections between communication and the value of firms. Two such frameworks exist: first, accounting, and second, market-based perspectives. The former reflect a firm's current operational performance, while the latter focus on investors' perceptions of the firm's future performance (Daily & Dalton, 1995; Shen & Cannella, 2002; Giambatista et al., 2005). These two perspectives can be seen to differ fundamentally in the role given to communication: while accounting-based perspectives see communication as a distribution of *knowledge* about a firm's performance, market-based perspectives posit that investors' *expectations* based on perceptions which are formed in highly communicative processes among themselves. This difference between the two views is not absolute, since even accounting-based perspectives on a firm's value are starting to include reputation and other intangible assets (Lev, 2001; Ballow et al., 2004; Haskel & Westlake, 2017; Osinski et al., 2017; Shepherd, 2018). However, it is the market-based view of the firm that conceptually includes share- and stakeholder communication. Therefore a market-based perspective of a firm's value is used to investigate the impact of communication, here specifically of information leaks about leadership change.

Within the market-based perspective a further distinction can be made between *information theory* and *sentiment theory* in the precise understanding of communication. According to information theory, markets respond to communication about the firm when and because it contains new facts that can, and often are, later verified. Consistent with this view, researchers in management and finance assume information dissemination about the firm to be the predominant function of the media, causing *financial events* like changes in stock price, investor composition and stock turnover (Graf-Vlachy et al., 2019). These financial events are likely to have long-term effects on the valuation of the firm. The *announcement* of a change in CEO is such a case in information theory since it triggers investment (or divestment) after the announcement, but before the CEO has had her first day in the role (Virany et al., 1992; Finkelstein & Hambrick, 1996; Zhang & Rajagopalan, 2004). Billions of dollars can be added or subtracted to the market value of a firm within seconds of such an announcement.

Sentiment theory (Tetlock, 2007; Tetlock, et al., 2008) gives an even larger role to communication in the value of a firm. It goes beyond information and describes the sentiment given by the market as constituting the actual financial event itself. The two, information and sentiment, can even be separate altogether, as markets can respond to leaks, rumours, artefacts, prior sentiments, other

markets' sentiments etc. without a connection to the actual operations of the firm (Friedman & Singh, 1989; Hambrick & Quigley, 2014). For example, a positive correlation has been found between the *numbe*r, not the *nature*, of mentions of a company by the Financial Times and the transaction volume of its stock (Alanyali et al., 2013). There are other correlations between general media coverage and stocks for blue chip companies (Scheufele et al., 2011). Specifically, being mentioned in the Wall Street Journal, the Dow Jones News Service, and on twitter affects stock returns irrespective of the content of the coverage (Tetlock, 2007; Bollen, et al., 2011; Dougal, et al., 2012; Garcia, 2013; Sinha, 2016). Stocks experience a strong run and reversal during the 11 days after a significant CEO TV interview (Fang & Peress, 2009). These sentiment-based financial events are predicted to have a transient effect on the value of a firm (for instance, trade volume dropping before rising again; stock prices rising briefly before normalizing). "Sentiment theory predicts short-horizon returns will be reversed in the long run, whereas information theory predicts they will persist indefinitely" (Tetlock, 2007).

The announcement of CEO change has hitherto been predominantly studied using information theory. The authors, however, propose that sentiment theory is better suited to investigate the existence and impact of leaks about CEO changes because it concedes that financial events may have little or no connection to verifiable information.

The research therefore set out to answer the following research questions inspired by sentiment theory.

RQ 1: Does information about impending CEO change leak from corporations?
RQ 2: Do these leaks create 'financial events'?

If the answers to both these research questions is positive, further practical matters of communication management would arise around the avoidance of ethical, if not legal, aberrations. Do those charged with formal communication of organisations have a responsibility in better managing the information about impending CEO changes so that leaks can be ruled out and possible market abuse avoided? If so, how they may discharge such responsibilities?

Methods

People who release or receive non-public, market-moving information (let alone act upon that information on the stock market, or feed it into a trading algorithm) are either not aware of the aberrant nature of that information (and their actions), or they are actively hiding their awareness. Either way, asking participants in the stock market about their possession and use of leaked information about impending CEO changes, was not deemed to be methodologically possible a) because it is extremely difficult to identify those individuals and b) even if they could be identified, they would be unlikely to co-operate because they would open themselves up to accusations of criminality.

Furthermore, while it is difficult to track early and potentially illegal information disclosures within closed information loops such as one-to-one telephone calls, private correspondence and face-to-face conversations, social media transactions leave a permanent trace which allows researchers to interrogate post-event, if such activities were undertaken.

Therefore, two non-obtrusive indicators were chosen by using aggregate data from digital and social media, a growing source of (textual) information, including for information asymmetries.

Earlier studies have used internet searches as unit of analysis (Da et al., 2015; Nguyen & Pham, 2018). Likewise, to assess if information about an impending CEO change had leaked, Google Analytics was used to assess surges in on-line searches for the new CEO name in the three weeks immediately prior to *any* kind of public mention of her/his name in connection with the CEO role, or of *any* similar mention of the departure of the sitting CEO. 'Public mentions' were defined both as company announcements and as independent media and blogs (as documented by Google Analytics and LexisNexis).

A 'surge' was treated as a dichotomy, with a very high bar for positive. To register as a surge in searches, these had to a) be the highest number of searches for that person in the past 12 months b) occur in the absence of any public company news during that same time c) occur in the absence of a similar surge for any other member of senior management and board in the same corporation d) occur in the absence of any non-company related public mention of the same person (for example, about a wedding on a tropical island, or a board membership in an unrelated organisation).

To assess if markets were responding to an unexplainable 'financial event', Yahoo Finance and Datastream were used to assess the change in stock trade volume and stock price during the same three weeks immediately prior to the public mention that was used for the Google Analytics search. These weeks were mostly identical, except when the cut-off days for the online searches fell on days where stock markets were closed. In such cases the three weeks period was calculated to be the time between the trading day closest to the first public mention of CEO change and the trading day closest to three weeks before that.

'Financial event' was also treated as a dichotomy and registered as a positive if a) trade volume consistently moved in the same direction during the 3 weeks b) stock price moved in the same direction during those weeks c) stock price reached either the highest or the lowest level since the most recent publication of the corporation's quarterly results d) stock trade volume either reached the highest or the lowest since the most recent publication of the corporation's quarterly results e) this occurred, as above, in the absence of any public company news during that same time f) it occurred, also as above, in the absence of other public news about any senior management member of the company.

Fortune 500 companies were chosen as the population and a non-random sample was created consisting of a subgroup of the 100 corporations in which all countries-of-origin were represented to

the same degree as in the total population of 500, that is, the sample contained the 50 largest US corporations, the 12 largest British corporations, the 11 largest German corporations and so on.

The point of measurement was a corporation's most recent CEO replacement by an internal candidate at the time of the data collection (completed November 2017). Where corporations needed to be excluded because their CEO change happened before Google searches existed and/or were documented, the next largest corporation on the Fortune 500 from the same country was included. The same replacement was done whenever a company's most recent CEO had been an external candidate.

Results

In 23 of the 100 internal CEO successions studied, there had been a surge in online searches for the new CEO's name prior to *any* information or speculation being made public, be it by the company, media, or bloggers. The degree to which this happens varies per country: surges happened in 52% of the internal CEO successions in US-firms, 33% of those in the UK; 20% in the Netherlands, 8% in France, and none in Germany, Canada and Switzerland.

Of those 23 cases, nearly half (11) also experienced a market response to an unexplained 'financial event' during the same time, i.e. stock trade volume *and* stock price were the most extreme for that quarter and could not be explained by any publicly available information. More than half (12 – which includes the 11 mentioned above) experienced an extreme trade volume *or* stock price. The change in trade volume ranged from -40.81% (at IBM) to 50.25% (at AIG); the change in stock price ranged from -4.3% (at Legal & General) to 22.17% (at Royal Bank of Scotland).

The control group for unexplained 'financial events' were the 77 remaining corporations on the list, i.e. those *without* a surge in online searches taking place for the next CEO's name before any public mention of her/him. Of this group, only 3 (4%) had an 'unexplained financial event'. In these unexplained financial events, trade volume changed by -90.09% (at PepsiCo) to 96.2% (at Airbus); stock prices changed from -20.1% (at Airbus) to 0.9% (at PepsiCo).

In summary, in nearly a quarter of the most recent internal CEO successions at Fortune 500 corporations studied, there was a surge in online searches for what later turned out to be the next CEO's name without any public information that would explain such surge. At the same time, in nearly half of those cases, the corporation's stock seemed to respond to an unexplained 'financial event', i.e. there was an extreme fall or drop in both trade volume and price – again without any public information that would explain such a stock market activity. These things happened concurrently in the same 3-week periods, but very rarely in corporations where there had been no surge in online searches for incoming CEO names.

Discussion

The results suggest that information about internal leadership succession leaks and that today's 'all-machine ecology' (Manahov, 2016) of the financial markets may be turning that non-public information to an investment advantage. There are two (not mutually exclusive) explanations as to why: first, trading algorithms that have been programmed to treat, as the authors did, internet search patterns as a parameter, and to make large buying/selling decisions on the basis of changes in that parameter. Second, they could also have been programmed to detect informed trading by others (Frino et al., 2017) and thus respond to *trading* rather than to internet *data*.

There needs to be an interrogation of whether what has been observed is ethically and/or legally aberrant behaviour. After all, human behaviour is probably not directly behind the financial event, rather a market trading algorithm is likely to have been programmed to respond to another programme that scrapes search-patterns (and other information) off the internet. The ethical and legal interpretation of such market abuse (if, indeed, it is) by algorithms falls outside the scope of this paper, however, it is posited that the market movement would originally have been triggered by a lack of discretion inside the organization and a subsequent leaking of information.

This is the dilemma for communication managers and it is on this that this discussion focusses. Corporations seem to exert insufficient control over the specific type of non-public information studied here and are thus not willing/and or able to contain ethical breaches perpetrated by information leakages. The fact that the impact of these leakages are executed in the all-machine ecology of financial markets does not absolve them from responsibility, quite the reverse. Because algorithms make decisions based on *data* which is supplied by human agents and because the impacts are so amplified, it places the human actions that provide the data for those transactions even more into sharp focus.

Two questions arise, therefore, for communication managers. Does it fall within the professional remit of communication managers to do something about such occurrences, and, second, what courses of action might they take?

The answer to the first question, the authors would argue, is affirmative, with the reasons arising from three perspectives. All three are based on the deontological view described above that any leak prior to CEO change has an ethical cost. First, communication practitioners, as do all employees, have a responsibility to report malfeasance. Second, it has long been the claim of practitioners that they have a role as an organisational ethical guardian (L'Etang, 2003; Heath & Ryan, 2004; Fawkes, 2017) and this has been recently re-enforced by the Global Alliance (GA) in its Global Capabilities Framework (GA, 2018). Such leakages are communication events and would align with the professional remit of the function charged with communication within the organisation. Third, as individual practitioners, those who belong to a professional association ascribe to a code of ethics which demands that they act within the law, in the interests of society and with regard to the needs of all stakeholders (CIPR, 2019; GA, 2019; PRSA, 2019). When discovering that a small group of

people are being advantaged, in contravention to the expectations of society and at the cost of other stakeholders with a legitimate and equal right to have such information concurrently, they are bound to act.

The answer to the second question is more difficult for a number of reasons. It is likely that senior managers themselves are under suspicion of being the source of such leaks and of gaining advantage. Nonetheless, practitioners should follow designated company procedures and processes for reporting malfeasance since that may be material in three respects: a) following process is an important procedural and ethical act in itself. Corporations should be formally informed of possible malfeasance since as corporate bodies they have a legal responsibility to comply with the law once they are informed of malpractice of which they may be unaware; b) if there are any actions against the corporate body in which the communication manager is seen to be a material actor (i.e. responsible for communication), there would be evidence of responsibility being discharged; c) reporting malpractice protects the communication manager from/in any subsequent actions against them as individuals by their own corporation.

A second issue relates to the *capacity* in which the communication manager takes action. In many organisations there are formal whistleblowing policies, or Regulators to whom the individual can turn. However, under what persona do communication professionals act? As individual employees or as professionals claiming a particular role (ethical guardian) which is not usually a formal part of their job description. If they act as individuals, they lay themselves open to the consequences that whistleblowers often suffer, that is damage to their careers and this is choice they will have to make. However, if they act as a professional who is discharging their professional responsibilities, the element of choice is removed because this is a duty laid down in Codes of Conduct and Ethics (Fawkes, 2017; PRSA, 2019). Acting in this professional persona is also likely to afford more legitimacy and protection, since as professionals they would first seek the advice and support of their professional body and act under the umbrella of their professional identity.

Third, there are two, *practical courses of actio*n open to organisations in which the communication professional will be involved. Firstly, to tighten up internal governance processes and discipline to prevent such leaks. Rules of Governance around communication should be reviewed in the light of new technologies especially the agents that are used by management as 'delegates' of their own decision-making, such as artificial Intelligence and automated trading algorithms. Such a review would cover not only communication about new CEO appointments, but all activities that lead to information asymmetries that can provide advantage to privileged parties. It would focus particularly on social media activity given its reach, ubiquity and agency.

In addition, the Board Appointments Committee, who usually are responsible for search and CEO appointments, should be required to take joint responsibility for confidentiality. In other words, if there are leaks they are all individually and collectively held responsible and accountable for any legal action. Individual responsibility for confidentiality is nothing new, with none-disclosure agreements being common-place, but collective responsibility would add further discipline.

The second course of practical action is to pursue actively the opposite course and is most in tune with an understanding that deontological ethics are being breached by leaks: ’radical transparency’ (Rock, 2012; Elahi, 2016). This recognises that keeping organisations ’leak-tight’ is very difficult, if not impossible. Radical transparency includes full disclosure as soon as possible, in this case, full information that the search for a new CEO is about to commence and that internal candidates will be considered. It would not, in the authors’ view, be necessary (or ethical) to disclose actual names. Externally it would create an opportunity to judge public and stakeholder opinion on potential internal candidates before they are appointed, to test market sentiment and to mitigate the often significant volume and price movements in shares by making it a lesser ’financial event’ undertaken over a period of time that allows market adjustments to take place (Denis & Denis, 1995; Shen & Cannella, 2003; Rhim et al., 2007). Internally, it facilitates opinion to surface before appointment, but it also allows any ’hidden’ issues to emerge. Such a process would open up discussions before appointment and help to obviate suspicion.

The fundamental limitation of such radical transparency – if practiced by all public companies– is that it may actually have a perverse effect on the accessibility of information and therefore on the functioning of fair competition and markets. With the amount of information thus becoming accessible, those with superior algorithmic capacities might yet again have higher and faster ability to detect and interpret market relevant data and thus far outpace those without such capacities.

Conclusions

This article contributes new knowledge in a number of areas and provides stimulus for other avenues of research. First, these results make a specific contribution to sentiment theory. The data point to the fact that speculation about an impending CEO-change can indeed change investors’ sentiment and thus be a ‘financial event’, as sentiment theory would suggest (as opposed to the actual change in CEO, which would be far more informational in nature).

Second, this article moves beyond existing studies and suggest that such a financial event need not be triggered by textual and/or formal information in the media alone, but that it can have its roots in non-published information that finds non-public, or even aberrant ways of distribution. What remains to be answered is the question about what exactly has constituted such a financial event here: the non-public information shared, the rise in internet searches for leaders’ names, or the sudden movements on the stock markets themselves, or a combination of all three? Such a further investigation might also shed light on the significant differences between countries observed here, but which is outside the scope of this paper.

Third, this research has discovered that a privileged few may be benefitting financially from non-public knowledge: this is a criminal activity that is not being detected or acted upon. Other instances in corporate life can be envisaged when similar ’financial events’ could be triggered by on-line information asymmetries, for example, mergers and acquisitions, company re-locations and product

innovations. The researchers conclude that the twin approach of updating Governance processes in the light of communication advances *and* engaging in radical transparency would help to obviate advantage for the few and assist the communication manager in discharging their deontological ethical responsibilities to profession, organisation and markets.

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