

Title: Chronic corporate underperformance in Media-Tech firms: a new perspective

Abstract

This paper investigates how a crisis event resulted in the long-term decline in media-tech firm performance. The research used an innovative approach that developed an intellectual bridge and transfer of knowledge between the previously discrete fields of Strategic Management and Epigenetics. The study used a multi-method approach consisting of the critical incident technique, longitudinal content analysis of corporate annual reports and financial analysis which divided the data into ‘what happened before the crisis event’ and ‘what happen after the crisis event’. The paper concludes that by examining chronic corporate underperformance through the lens of epigenetics, we are better able to understand how a crisis event can create *transgenerational responses* which result in adaptive cultural norms that combine to consolidate an organisations underperformance.

Keywords: Organisational Culture, Innovation, Risk, CEO Turnover; Corporate Performance
Transgenerational Response

Introduction

Albert Einstein reputedly said that ‘if at first the idea is not absurd, then there is no hope for it’. The implication being that the best ideas result from uninhibited thinking and a willingness to embrace different perspectives on how best to solve a problem. This article argues that media organisations suffering from chronic underperformance may be suffering from the effects of a crisis event that occurred years previously. This type of corporate situation is referred to as a ‘turnaround’ case where newly appointed executives take action to rescue the firm from potential failure by implementing new strategies that aim to restore profitability. However, media firms with a history of chronic corporate underperformance and unsuccessful turnaround attempts could be suffering a *stress reaction* to a previous crisis event that continues to hamper its ability to successfully address new market challenges. This paper argues that when such situations can’t be resolved by a change in strategy or a new CEO, it is time to consider a thought-provoking alternative diagnosis located within epigenetics research, that is, ‘Transgenerational Response’ (Oliver, 2017).

Transgenerational Response is well known in epigenetics research and is described as a severe environmental situation that creates an inherited adaptive response in the epigenome of an organism. Importantly, a transgenerational response is defined by the ‘transmission of disease and ill health to subsequent generations who were not exposed to the original environmental event’ (Skinner, 2008). Significant research studies into this phenomenon include examining the transgenerational responses of maternal nutrition influencing the development and health of future generations (Pembrey et al, 2006; Kaati et al, 2007); the consequence of traumatic experiences, such as war and the holocaust, where the off-spring of survivors have inherited negative psychological and behavioural characteristics (Nadler et al, 1985; Sorscher and Cohen, 1997; Davidson and Mellor, 2001); and emotional disorders

(Ward et al, 2001; Champagne, 2008). Perhaps one of the most illuminating and emotive studies into transgenerational response was an examination into the effects of post-traumatic stress disorder (PTSD) in babies of mothers exposed to the World Trade Center Attack (2001) during pregnancy (Yehuda et al, 2005). The study concluded that the effects of maternal PTSD, as a result of this catastrophic event, were passed on to their babies as evidenced by a significantly smaller than average birth weight and a permanent vulnerability to depression, stress related illnesses and an increased distress response to current events.

Positioning this research

Given that some media firms may be enduring long-term and chronic underperformance, or indeed, are potentially exposed to the future economic effects of the COVID19 crisis, this paper takes the view that instead of developing boundary spanning knowledge on chronic media firm performance, perhaps it is time to cross-fertilise and embrace different perspectives on how to better understand the problem of chronic corporate performance. Pettigrew, Thomas and Whittington (2007, p. 3-9) provide a strong argument for the “intellectual bridging” and transfer of knowledge between discrete fields of study in order to gain new insights which contribute to theoretical development. The bridging process for this paper required the development of a conceptual framework that identified the logical conceptualisation of the problem, research questions, relevant literature, methodology, analysis and conclusions. The argument provided by Kivunja (2018, p.47) noted that this is “a metacognitive, reflective and operational process” and in the development of the conceptual framework for this paper, the knowledge from epigenetics (transgenerational response) was transferred and interpreted in the context of strategic management research. This in turn, resulted in three guiding principles which underpinned the research: firstly, that organisations are exposed to an environmental event or crisis; secondly, this event produces

inherited organisational effects and adaptations; thirdly, that these effects and adaptations result in chronic and generational corporate underperformance.

The paper does not intend to develop a theory that explains, predicts and makes generalised statements on chronic firm underperformance within the limits of existing assumptions. It does, however, provide a thought-provoking and original contribution to our understanding of how crisis events can affect changes in organisational culture to the detriment and long-term viability of the firm.

Literature Review

The literature review is presented in line with the guiding principles outlined above. As such, the review integrates knowledge from epigenetics and the cultural school of strategic management to consider how an organisation exposed to a crisis event experiences inherited organisational effects and adaptations in culture in terms of attitudes to innovation and risk. These adaptive effects, furthermore, result in multi-generational and chronic corporate underperformance.

A corporate crisis can create a stress reaction

The prevailing view of managing corporate crisis situations is that an effective resolution is often achieved by adopting a systematic approach that includes pre-planning, rehearsing scenario situations and reacting quickly to priority issues (Gruber et al, 2015; Parise et al, 2016; Bowers et al, 2017). Whilst this line of reasoning is appropriate, it is a short-term view and one that ignores the potential for a crisis to create long-term implications for firms in the same way that epigenetics researchers have found that severe environmental events create transgenerational responses in health.

Of particular relevance to this paper, is the tension that exists in our current understanding of a crisis event and its link to organisational culture and performance. On the

one hand, a dominant view in literature suggests that organisational culture is flexible and evolves in response to external and internal change agents (Schein, 1990; Johnson et al, 2008) whilst another view suggests that organisations can be “captured” by their culture which makes it difficult to manage and control their direction and performance (Groysberg et al, 2018). In contrast, Mintzberg et al (2005) reviewed a significant body of literature which indicated that an existing culture tends to discourage organisational change and encourage perpetuation of the status quo primarily due to embedded values and beliefs acting as an invisible barrier against change (Lorsch, 1986). As such, organisations develop a dominant logic which creates a tacit social order that favours a consistency in cultural norms and deters change. These views are interesting when considering the impact of a crisis event on organisational culture and performance. Does a crisis result in an evolutionary cultural adaptation in the firm, or, does it result in a no change scenario because the organisation is held prisoner to a path dependent culture?

A corporate crisis can result in organisational effects and adaptations

Epigenetics literature argues that a severe environmental event can produce inherited transgenerational psychological and biological effects in organisms (Sorscher and Cohen, 1997; Ward et al, 2001; Pembrey et al, 2006). Defining what a corporate generation is has not been fully established in strategic management literature, however, this research argues that a corporate generation starts with the appointment of a new CEO and ends when that executive is replaced. It is a period in the life of a firm that is distinctive with each new CEO making major corporate decisions, shaping long-term strategy and ultimately being responsible for delivering on corporate objectives and performance targets (Weisbach, 1988; Murphy and Zimmerman, 1993; Brickley 2003; Kato and Long, 2006). Although literature establishes a link between CEO tenure and firm performance (Henderson et al, 2006; Simsek, 2007) scholars agree that the length of this tenure is finite. Interestingly, Finkelstein and Hambrick

(1990) found that increases in tenure enhances executive commitment to the existing organisational culture and makes them more risk averse, whilst Lant and Mezias (1992) argue that higher levels of tenure impeded an executives ability to deal with sudden environmental changes, such as, a corporate crisis event. A review of literature on CEO tenure found only one study on the topic by Tonello (2015). This reported that the average tenure of an S&P 500 CEO was 9.9 years. By implication, a CEO tenure less than this average figure could be indicative of an underperforming firm, but, a firm appointing multiple CEOs in a relatively short space of time could be a key indicator in identifying transgenerational response effects.

Adaptations in organisational culture

Organisational culture literature reveals a diverse subject field with many definitions and numerous theoretical frameworks that seek to explain the phenomenon. Interestingly, there has been little in the way of inquiry into the cultural aspects of media organisations although important contributions have been made in terms of: Kung's (2000) examination of how culture influences the strategic direction of media firms; Killebrew's (2003) study on how culture and creativity was influenced in an era of convergence; Deslandes's (2011) exploration of the tensions between culture and organisational identity; and Harisalo et al's (2014) study on the organisational factors that strengthen culture.

The foundations of organisational culture emerged in the social sciences with articles by Gusfield (1957) and Presthus (1959) examining the cultural aspects of 'conflict on organizational unity' and how a cross cultural context influenced 'the patterns of organizational behavior' required to achieve organisational adaptation. The 1970s saw the emergence of organisational culture as an area of inquiry for business and management researchers, and a cursory look at citations for the articles produced during this era reveals very little in the way of traction in the ideas presented.

Since the 1980s onward, organisational culture has become an important topic, so much so, that Mintzberg et al (1998) identified the *Cultural School* as one ten primary schools of strategy formation. Numerous perspectives on culture have emerged and include highly cited work such as: Schein's (1985) view that culture is a pattern of shared assumptions that operate unconsciously within an organisation; developing a culture conducive to organisational learning (Garvin, 1993); the role of people in creating organisational climate and culture (Schneider et al, 1995); the role of leadership in developing organisational culture (Epstein et al, 2010); and that organisational performance is enhanced when leadership and strategy are aligned with a strong culture (Kung, 2000; Deslandes, 2011; Groysberg et al, 2018). This body of knowledge highlights one of the key issues in literature, in so far as, 'unconscious and implied' ways of working within an organisation suggests that culture is instinctive and difficult to measure. In essence, organisational culture creates a tacit social order that shapes and regulates attitudes, behaviors and social norms toward a shared organisational goal that aims to enhance performance through the greater ideological commitment of employees.

There is also an extensive body of strategic management literature that considers an organisation's culture to be the '*DNA of a firm*' (Fagiano, 1994; Dyer, Gregersen and Christensen, 2009; Meyerson, 2016). In terms of drawing a parallel with an organisation's culture (eg. shared values, norms and behaviours), DNA carries the genetic information that allows an organism to function, grow and reproduce. Importantly, like an organisation's culture, DNA is a dynamic and adaptable molecule that is subject to change as a result of a mutation caused by exposure to an environmental factor in the same way that a corporate crisis can affect the culture and performance of a firm. Interestingly, Kung (2000, p.108) noted that culture, like an organism's mutation, adapts slowly in response to environmental

factors and that the success of any organisation's response will largely be determined by the "level of commitment to achieving those responses".

Adaptations in organisational culture: innovation and risk

Existing literature on the interplay between organisational culture and attitudes to innovation, risk and performance is relatively small. Baregheh et al (2009, p.1334) undertook an extensive multi-disciplinary review of literature and concluded that innovation should be defined as "the multi-stage process whereby organisations transform ideas into new/improved products, service or processes, in order to advance, compete and differentiate themselves successfully in their marketplace". This view builds on previous work which also integrates aspects organisational culture and performance. For example, a cultural dimension can be drawn from Zaltman et al (1973); Ruef (2002); O'Reilly and Tushman (2004); Knight and Cavusgil (2004); Langerak et al (2004); McKelvey and Saemundsson (2018); and Oliver (2019) who argued that culturally, firms were either more open, or resistant, to the idea of innovation and developing (or not) the strategic outlook, policies, investments, systems, people and processes that deliver inventive products and services. Furthermore, Hurley and Hult (1998, p.44) proposed that the "innovativeness of the culture is a measure of the organisations orientation toward innovation" and that the ability to adopt new ideas and processes often led to new products, and eventually, improved market performance. An influential paper by Han et al (1998, p.30) also concluded that innovation was an important function of an organisation's activity "because it is linked to business performance", a view which is shared by many scholars in the field.

Innovation, risk and corporate performance

Epigenetics literature argues that severe environmental conditions can result in negative and often chronic psychological and behavioural characteristics such as: lower than average birth weight for babies (Yehuda et al, 2005) and emotional disorders (Davidson and Mellor,

2001; Ward et al, 2001; Champagne, 2008). Chronic corporate underperformance has been extensively researched in strategic management literature, primarily with regards to ‘corporate turnaround and financial distress’ using a number of financial indicators and ratios (Opler and Titman, 1994; Sudarsanam and Lai, 2001; Schweizer and Nienhaus, 2017).

The general view in literature is that risk taking is closely linked to corporate performance, with decision makers evaluating alternatives that ranged from having a ‘certain outcome’ to ‘taking a gamble’. Risk has been defined as a process that reflects “a variation in the distribution of possible outcomes, their likelihoods, and their subjective values” (March and Shapira, 1987, p.1404). Interestingly, several studies have shown that risk taking is higher for organisations with historically low levels of performance, and firms with higher than average industry performance, seemingly produce better returns on their risk initiatives (Bowman, 1982; Garvin, 1993; Sinha, 1994). Subsequent research by Denrell (2008, p.427) explained this outcome by arguing that firms with historically low performance may be due to managers being unable to “frame” market opportunities effectively, whilst higher performing organisations appear to be better at evaluating and engaging in risky activities. Needless to say, an organisation’s culture is likely to play a significant role in shaping and framing risk. Furthermore, Fiegenbaum and Thomas (1988, p. 97) found that firms tended to engage in more “risk seeking” when they suffered losses or were below targeted levels of performance, whilst “risk aversion” tended to happen when they achieved organisational goals. In a similar vein of thought, Buyl et al’s (2019) study of CEO narcissism in the US banking industry found that relaxed corporate governance and generous compensation policies encouraged risk-taking, and that following a crisis event, these firms were slow to recover performance levels afterwards.

Method

Exploring the long-term effects of a corporate crisis through the lens of Transgenerational Response required a multi-disciplinary and multi-method approach. As mentioned previously, the guiding principles outlined previously (a crisis event occurs; resulting organisational effects and adaptations in culture; which produces multi-generational and chronic underperformance) informed the research objectives and design.

The research objectives were:

RO1: To identify those firms that had been exposed to a crisis.

RO2: To identify those firms with multiple corporate generations.

RO3: To analyse the subsequent adaptive cultural responses in terms of firm attitudes to innovation and risk.

RO4: To measure the corporate financial performance of firms exposed to a crisis.

Research design

The research design (Diagram 1) indicates a sequential process of: identifying organisations that had been exposed to an environmental event or crisis which produced a stress reaction in the form of inherited organisational effects (CEO turnover) and adaptations (attitudes to innovation and risk) which results in chronic and generational corporate underperformance.

Diagram 1: Research design

Objective	Type of Data	Source of Data	Method of Data Collection	Method of Data Analysis
RO1: To identify those firms that had been exposed to a crisis	Qualitative	Reported Crisis Events	Desk Research	Critical Incident Technique
RO2: To identify those firms with multiple corporate generations	Qualitative	Corporate website	Desk Research	CEO tenure and turnover

RO3: To analyse the subsequent adaptive cultural responses in terms of firm attitudes to innovation and risk	Quantitative	Corporate Annual Reports	Desk Research	Nvivo: frequency analysis of innovation and risk words
RO4: To measure the corporate financial performance of firms exposed to a crisis	Quantitative	Thomson Reuters Datastream	Database	<ul style="list-style-type: none"> - Share Price - Market Capitalisation - Operating Income - Earnings Before Interest and Tax

Research Methods

Critical Incident Technique

The Critical Incident Technique was used to identify those firms that had been exposed to a crisis event dating back to the year 2000 (RO1). The technique has been used extensively in a range of subject fields including management and service marketing research and the central argument in literature (Flanagan, 1954; Zeithaml and Bitner, 1996; Gremler, 2004) proposes that incidents are ‘critical’ if they are *clearly identifiable* (eg. a crisis event – RO1) and resulted in subsequent corporate *effects* (eg. CEO turnover – RO2) and *consequences* (eg. adaptive cultural responses in terms of firm attitudes to innovation and risk – RO3) which influence the health and development of the firm (corporate financial performance - RO4). This line of thinking also aligns with epigenetics research which argues that a severe environmental event can result in detrimental effects and consequences on the development and health of future generations (Nadler et al, 1985; Yehuda et al, 2005; Kaati et al 2007).

Whilst the previous discussion has referred to crisis events, the subsequent discussion will refer to these events as a Critical Corporate Incident (CCI) in line with service marketing literature. Desk research revealed 17 potential cases that had the potential to create *effects* and *consequences* in the form of long-term adaptive firm responses and subsequent financial underperformance. Two media-tech firms, Yahoo and Blackberry, are presented in this paper for further discussion.

Content analysis

The dominant view in literature is that an organisation's culture is difficult to measure due to the often 'hidden' and 'unconscious' ways of working within an organisation (Kung, 2000; Johnson et al, 2008). RO3 sought to address this issue and argues that culture can be measured by using a quantitative content analysis of the 'word frequencies' contained in corporate annual reports (Bowman, 1982; Hilal and Alabri, 2013; Oliver 2018). Computer software package Nvivo 12 was used to gain meaningful data from the 'text rich' annual reports in order to recognise patterns in data and draw conclusions about the effect that a corporate critical incident had on the culture of each firm. A total of 36 company annual reports between 2000-2020 were analysed for their adaptive attitudes and responses before and after the CCI. In terms of measuring adaptive cultural change, the view Pettigrew et al (2007, p.3) provided support for the approach taken when they noted that "if you try so see everything, you see nothing" and that historically strategic management researchers have tended to focus on a narrow range of analysis to make limited observations. As such, the units of analysis for this aspect of the study were words associated with 'innovation' and 'risk' with descriptive statistics used to calculate the frequency of each word in the categories of high, medium and low (see Appendix 1). Initial analysis from each category proved unsatisfactory in terms of clearly illustrating adaptive cultural change and so the data from all innovation and risk categories were combined and then calculated against the total number of

words in each annual report. This provided a more meaningful insight into the cultural change resulting from a corporate critical incident.

Corporate financial analysis

RO4 measured the corporate performance of firms exposed to a CCI using Ellis and Williams (1993, p. 203) longitudinal Comparative Financial Analysis Framework which focuses on “how an organization is performing when compared with its past achievements”. The analysis of historic financial statistics (2000-2020) was obtained from Thomson Reuters Datastream and included the metrics Market Capitalisation, Operating Income, and Earnings Before Interest and Tax (EBIT) for their ability to provide longitudinal comparisons of corporate performance. Importantly, the data was analysed in terms of *what happened before the crisis event* and *what happen after the crisis event*. The average % increase or decrease in each financial variable in the years before and after the CCI was then calculated to illustrate corporate financial performance. For example, if the incident occurred in 2006, the Market Capitalisation of the firm in 2006 was compared with the Average Market Capitalisation figure in the years prior to and following the event. The % change in pre and post event averages were then compared to assess corporate performance effects of the incident. The use of averages has the advantage of smoothing the data in order to eliminate short-term volatility in the financial data which in turn provides a trend in corporate performance.

Validating the data

A number of validation methods were used to ensure that the data presented in this research is trustworthy. Researcher values and bias (Sykes, 1991; Silverman, 2006) was addressed by the researcher critically reflecting on the use of a multi-disciplinary approach, development of units of analysis, and the analysis and interpretation of data. In addition, an independent audit (Franzosi, 2004) by two senior directors at world class management consultancies, the Boston Consulting Group (New York) and The Hackett Group (UK),

confirmed that the health and vitality of a firm's corporate performance can be measured by the level of its innovation. Therefore, examining organisational attitudes to innovation and risk pre and post a CCI in order to assess adaptive cultural change in an organisation was appropriate. A further independent audit of the data analysis and interpretation of findings by a third party academic researcher revealed no theoretical or procedural issues in the methodological approach.

Data Analysis

For ease of presentation and coherence, the results of this study are presented as two case studies which sequentially address the ROs. As such, the results present the critical corporate incident, corporate generations, adaptive cultural firm responses in terms of their attitude to innovation and risk and the subsequent corporate financial performance. As we shall see in the following discussion, these critical corporate incidents have created 'effects' and 'consequences' that have resulted in chronic financial performance and adaptive cultural responses in subsequent generations of each firm.

Yahoo: critical corporate incident

Yahoo were pioneers of internet search and online services in the 1990s, once being ranked as one of the top websites in the US. On February 1st 2008, Microsoft Corporation made a hostile bid to acquire Yahoo for US\$44.6 billion in an attempt to combat the growing power and dominance of Google. The proposed acquisition made sense on a number of levels for both parties, but ultimately collapsed due to the differences of opinion in the valuation of Yahoo. The firm struggled with increased competition and its performance has been poor since the CCI in 2008. Yahoo ceased to be an independent operating company in 2017.

Yahoo: corporate generations

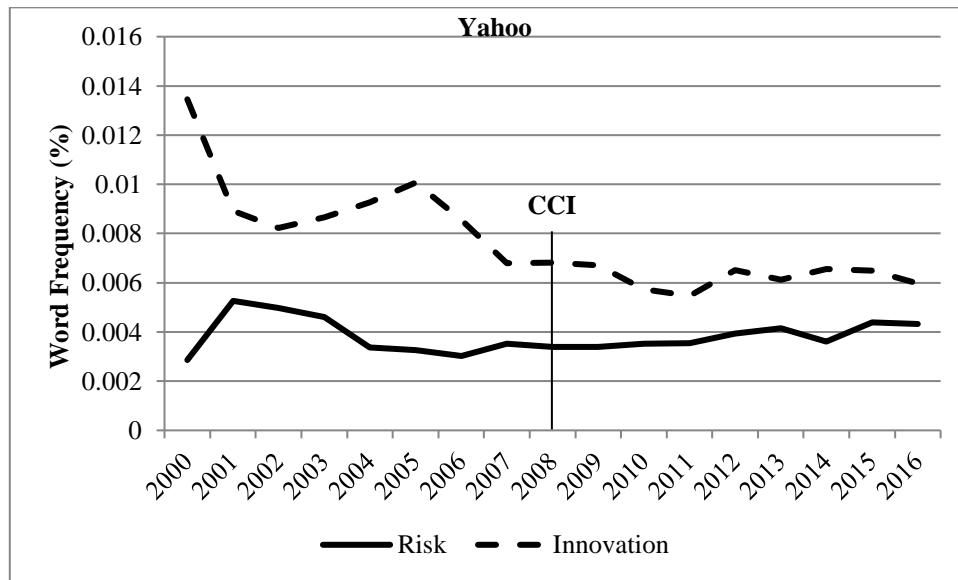
The fallout from this hostile bid has affected subsequent generations of Yahoo who have had 6 CEOs take the helm: Mayer (2012-17), Levinsohn (2012-12), Thompson (2012-12), Morse (2011-12), Bartz (2009-11) and Yang (2007-09). Whilst Yahoo had been hiring and firing CEOs, changing strategy, restructuring operations and cost-cutting, Google had been innovating, dominating market share and expanding the strategic scope of their activities with impressive results. The average CEO tenure for Yahoo since the CCI is just 1.83 years. Interestingly, CEO Carol Bartz commented on the Microsoft Corporation bid saying that “it would be easy to assume that the Company had been focused solely on these issues at the expense of the business”¹. In many ways this statement cast a long shadow over the firm in the subsequent years.

Yahoo: adaptive cultural change

There was an increase in risk words of 42% since the CCI in 2008, whilst the number of innovation words rose by 23% over the same period. The result is that the gap between innovation and risk related word frequencies narrowed (see Figure 1). Again, Yahoo appear to have adopted an innovation averse approach to the detriment of their financial performance.

¹ Yahoo Annual Report (2008, p.2)

Figure 1: Yahoo adaptive cultural change (Innovation and Risk)



Yahoo: corporate financial performance

Yahoo’s financial performance has been variable since the 2008 event. The share price data, again, indicates an immediate fall following the CCI and a long-term under performance in comparison to its major competitors and the NASDAQ. In addition, its Market Value, Operating Income and EBIT collapsed, with its 8 year change in pre and post event averages falling by -23%, -26% and -127% respectively (see Table 1). In 2008 much of the discussion in the annual report centered on ‘innovation’ and product development, however, in the ensuing years, the discussion changed to how Yahoo could deliver value. Initially, it aimed to deliver value to advertisers and consumers with a strategy that focused on mobile, video, native and social advertising; but then the value proposition turned to a consideration of shareholders in 2014 with a Strategic Review Committee exploring the potential sale of Yahoo’s operating business. The transformation of the ‘company to greatness’ was unrealised and 120 non-strategic legacy products and features were closed and it sold their 15% stake in alibaba, China’s e-commerce company for \$9.4 billion in 2014. Shareholders were informed that “with more than two decades of rich history, this is Yahoo’s

moment to realize the tremendous value in our business”². Yahoo were sold to Verizon Communications for \$4.83 billion in 2017.

Table 1: Yahoo Financial Performance

Yahoo	Pre-Incident 8yr Average (2000-07)	Critical Corporate Incident (2008)	Post-Incident 8yr Average (2009-16)	Change in Pre & Post CCI Averages (%)
Market Value (US\$ mn)	36092	35978	27696	-23
Operating Income (US\$ mn)	505	607	376	-26
EBIT (US\$ mn)	533	958	-144	-127

Source: Thomson Reuters Datastream

Blackberry: critical corporate incident

The rise and fall of Blackberry is a clear illustration of the dangers of complacency in fast moving tech markets. Having once dominated the smartphone market with 20% of global sales in 2009, by 2020 this had fallen to 0.02%. The CCI took place in March 2011 with the widely reported conference call made by co-CEO Jim Balsillie about the future launch of some ‘powerful new Blackberrys’. The news spread and as a result of this statement, consumers delayed their purchase of Blackberry products, which in turn, negatively affected sales revenue. This type of consumer behaviour is known as the ‘Osborne Effect’ which was further compounded by production delays and the launch of what ultimately proved to be a poor quality product when compared with other smartphones on the market. Blackberry have subsequently withdrawn from the smartphone hardware business and centered its new strategy on licensing and software development in an attempt to turnaround the firm’s fortunes. In the immediate aftermath of the incident, the Blackberry’s share price fell, and in

² Yahoo Annual Report (2015, p.2)

comparison to its major competitors and technology firm peer group (NASDAQ) the firm has failed to recover over the long-term.

Blackberry: corporate generations

Since 2011, three CEOs Chen (2013-current), Heins (2012-13) and Co-CEOs Balsillie and Lazaridis (2010-12) have attempted to deal with the effects and consequences of the CCI. These leaders have failed to turnaround a firm which has seen falling sales volumes and market share collapse. The average CEO tenure since the CCI is 3.33 years, a figure which is well below the average of 9.9 years for an S&P 500 CEO (Tonello, 2015).

Blackberry: adaptive cultural change

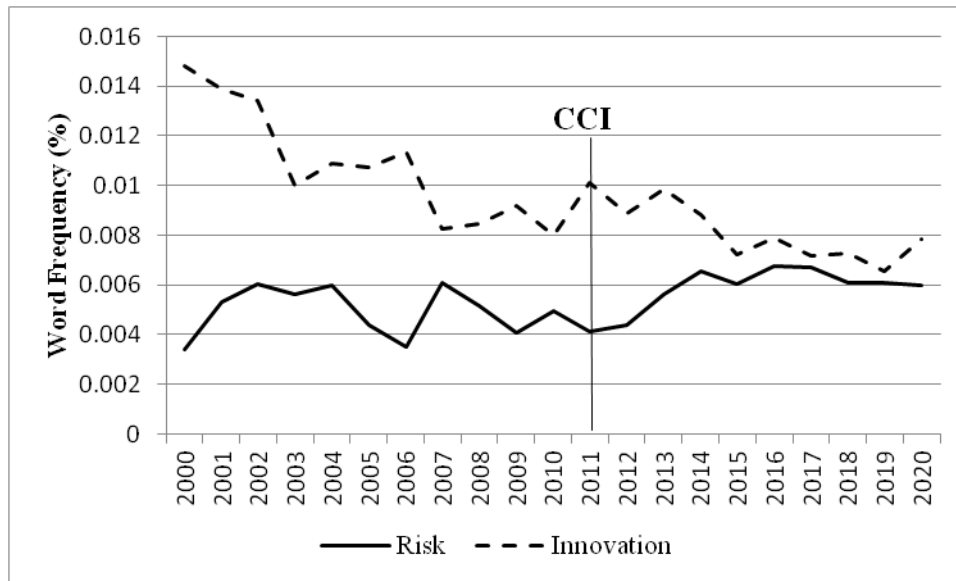
The word frequency analysis for culture and change is interesting. Whilst the firm consistently talked about a change and a dynamic market place, there did not appear to be any recognition that its culture had a role to play in its demise. The annual reports from 2011 onwards demonstrate an insular view of the world, with successive annual statements articulating emerging industry trends and how Blackberry had historically ‘revolutionized the mobile communications industry’. Incredibly, in 2016 they reported that “BlackBerry products and services are widely recognized in the market for productivity and security, and the company believes that it delivers the most secure end-to-end mobile enterprise solutions in the market”³. In the same year, its Operating Income fell by 73%, a clear indication of a firm whose products have little in the way of relevance in the market place.

What is striking is that for a firm previously incorporated as ‘Research in Motion’, the word frequency for ‘research’ has dropped from 183 words in 2011, to just 47 in 2020. Indeed, since the CCI in 2011, the number of risk words has increased by 96% and innovation words by just 5%, which has resulted in the gap between innovation and risk word frequencies closing, to the point where innovation is viewed in almost the same terms as risk

³ Blackberry Annual Report (2016, p.7)

(see Figure 2). As a result, Blackberry appear to have a strategic outlook that is resistant to innovation, which in turn, has resulted in chronic financial performance.

Figure 2: Blackberry adaptive cultural change (Innovation and Risk)



Blackberry: corporate financial performance

For a company that was once a global leader in smartphones, their subsequent financial performance following the CCI in 2011 makes for difficult reading. Their Market Value, Operating Income and EBIT have collapsed, with its 9 year change in pre and post event averages falling by -77%, -125% and -200% respectively. Perhaps what is surprising is that the turnover in CEOs hasn't been more prolific following co-CEO Jim Balsillie's critical statement.

Table 2: Blackberry Financial Performance

Blackberry	Pre-Incident 11yr Average (2000-10)	Critical Corporate Incident (2011)	Post-Incident 9yr Average (2012-20)	Change in Pre & Post Incident Averages (%)
Market Value (C\$ mn)	28444	27523	6541	-77
Operating Income (C\$ mn)	971	4733	-245	-125
EBIT (C\$ mn)	994	4750	-991	-200

Source: Thomson Reuters Datastream

Discussion

A widely accepted view is that corporate crisis events are managed effectively by adopting a systematic approach that includes pre-planning, rehearsing scenario situations and reacting quickly to priority issues with full disclosure of information. It is a short-term view, and one that overlooks the potential for a crisis event to influence the health and performance of an organisation in the future. This paper argues that organisations suffering from chronic underperformance may be suffering from the stress effects of a crisis event that occurred years previously and continues to hamper its ability to successfully address new market opportunities and challenges. The evidence presented in the data analysis would appear to provide a plausible explanation for chronic corporate underperformance in two media-tech firms, in so far as, a severe environmental situation has created an inherited adaptive cultural response that has influenced the development and health of the organisation over multiple generations.

In terms of RO1, two cases were classified as Critical Corporate Incidents (CCIs) since the data indicated that these were severe environmental events (Nadler et al, 1985; Yehuda et al, 2005; Kaati et al 2007) that were clearly *identifiable* and appeared to have created *effects* and *consequences* (Flanagan, 1954; Zeithaml and Bitner, 1996; Gremler, 2004) for both media-tech firms that had influenced their organisation's culture and corporate financial performance.

Investigating RO2 and the notion of a severe environmental event passing inherited responses on to subsequent generations is a central tenant of Epigenetic Theory (Sorscher and Cohen, 1997; Ward et al, 2001; Pembrey et al, 2006). The work of Tonello (2015) acted as the benchmark for the classification of an organisational generation, and in each case, the average tenure of the CEOs fell well below the S&P 500 average of 9.9 years. Indeed, since the CCI for Blackberry, the firm has appointed three CEOs whose average tenure has been

3.33 years, whilst Yahoo had six CEOs with an average tenure of 1.83 years. When CEO tenure is this short, the idea that these media-tech firms are ‘turnaround’ situations where newly appointed executives take rapid action to rescue a failing firm seems an inappropriate term to describe long-term underperformance. In contrast, a CCI that creates a *transgenerational response* is a powerful diagnosis for a firm with chronic corporate underperformance.

We know from epigenetics and critical incident literature that crisis events create effects and consequences (Flanagan, 1954; Zeithaml and Bitner, 1996; Gremler, 2004) that result in adaptation (Nadler et al, 1985; Yehuda et al, 2005; Kaati et al 2007). RO3 analysed the adaptive cultural firm responses in terms of their attitude to innovation and risk following a CCI. Whilst each firm produced differing adaptive cultural responses, we can conclude that the CCI did indeed produce an adaptation in the cultural attitudes to innovation and risk. The adaptive cultural responses for Blackberry and Yahoo are interesting, since the gap between innovation and risk has closed substantially since the respective CCIs, to the point where the adaptive cultural attitude to innovation and risk are almost the same. In essence, these firms viewed innovation as too risky and both firms corporate financial performance since the CCI has been disastrous.

We know from epigenetic theory that the health of multiple generations of organisms suffer as a result of a severe environmental event (Nadler et al, 1985; Sorscher and Cohen, 1997; Ward et al, 2001; Pembrey et al, 2006; Kaati et al, 2007; Champagne, 2008). The epigenetic research that specifically guided the examination of corporate health (ie performance) was Yehuda et al (2005) who found that babies of mothers exposed during pregnancy to the World Trade Center Attack (2001) were significantly smaller than average birth weight. If this finding is translated into the corporate world, then the performance of

firms exposed to a CCI would subsequently be inferior in the years that followed the crisis event. Like the babies in the Yehuda et al (2005) study, firms would be smaller. As such, RO4 measured the corporate performance in financial terms (market capitalisation, operating income, EBIT) with figures calculated as % increase/decrease before and after the CCI. Once again, there is a strong case for considering *transgenerational response* in organisations. Both Blackberry and Yahoo demonstrated significant reductions in Operating Income and EBIT and saw substantial reductions in Market Value. The over-riding conclusion from the financial data is that both firms are ‘smaller over multiple generations’ as a result of the CCI.

Conclusion

This article provides a thought-provoking contribution to our understanding of how crisis events can affect changes in an organisation’s culture to the detriment of its long-term viability and performance. Referring back to the quote attributed to Albert Einstein, is the idea that an organisation exposed to a crisis event could be suffering from a *transgenerational response* absurd? The evidence presented in the data analysis would appear to provide a plausible explanation for chronic corporate underperformance, in so far as, a corporate crisis has created an inherited adaptive cultural response that appears to have influenced the development and health of each organisation over multiple generations.

This paper argues that if the corporate underperformance of media firms is explained in the customary language of a ‘turnaround’ then the standard solution of change the CEO, change the strategy and cut costs applies. By looking at chronic corporate underperformance through the lens of Epigenetic Theory and the notion of an inherited *transgenerational response* we can better explain why organisations with chronic underperformance have high CEO turnover, low levels of innovation, poor financial health, and cannot be easily turned around. Furthermore, the data suggests that we can identify a specific moment in time when a

crisis event created an adaptive change in culture and resultant chronic financial performance. Importantly, this adaptation is inherited by future CEOs of the firm.

This paper has made an ‘intellectual bridge’ across previously discrete disciplines and in particular, demonstrates the value in examining the existing issue of corporate crises, culture and performance through the lens of knowledge from biology, and specifically, epigenetics. The empirical findings demonstrate that an organisation’s culture can be measured, something which many researchers have consistently argued against in literature. Whilst, this paper does not make claims of generalisability of the findings, it does provide a platform for future media management researchers to develop this line of reasoning and perhaps extend it to consider why some organisations demonstrate greater levels of resilience when faced with a crisis. Furthermore, a future research direction could consider the organisational processes, systems and mechanisms that enable the adaptation of cultural attitudes to be passed on within the firm.

For the practice community, the notion of an inherited *transgenerational response* following a crisis should enable business leaders and management consultants to identify how a historic Critical Corporate Incident has affected the performance of a firm in subsequent generations. With this knowledge in hand, they will be able to examine, unravel and manage the inherited cultural attitudes and behaviour, organisational policies, strategy and adaptive cultural routines that have combined to consolidate the media firm’s chronic under performance.

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Appendix 1: Innovation and Risk words

Low Innovation	Medium Innovation	High Innovation
addition alteration development enhance existing evolve improvement launch modify proceed product development progress research upgrade variation	advance contemporary change departure deviation evolution expand forward-looking growth increase improvement introduction innovate modern new	bet creativity cutting edge ingenuity imagination inspiration inventive leading edge novelty originality revolution shift transformation unique vision
Low Risk	Medium Risk	High Risk
cessation closure consequence concern damage danger end hazard jeopardy loss peril plunge termination threat vulnerable	assumption contingency difficulty doubt exposure liable likelihood option possibility probability prospect protect risk trouble uncertainty	chance destiny fortune gamble guess imagine luck openness opportunity outlook possibility prospect shot in the dark speculate venture