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Purpose This paper aims to investigate the intersection between corporate governance and management accounting information within the board meeting of an English Further Education college.

Design/methodology/approach The empirical fieldwork uses an interventionist approach. Board members' mental models of a management accounting boundary object are analysed.

Findings The paper supports Parker (2007) and Cornforth & Edward's (1999) observation that, within a board meeting, collaborative 'micro-management' type talk is considered to lie outside of the acceptable remit of non-executive and executive board member interaction. Such an attitude can prevent an intertwining of management accounting information and other mental models of an organisation occurring. This can preclude management accounting information from rendering an organisation visible, in an expansive manner, within a boardroom.

Research limitations/implications Interventionist researchers working within the black box of the board are encouraged to design more radical and collaborative interventions than the interview/report format used here.

Practical implications Non-executive directors might benefit from being offered the opportunity to interact with management accounting information outside of the formal board meeting and committee structure.

Originality/value A deeper understanding of how directors' mental models, boardroom behaviours, and attitudes influence their interaction with management accounting information is offered. Insight into the limitations of using management accounting information in the boardroom is developed.

Key words Corporate governance, Management accounting, Visibility, Boundary object, Mental model, Board meeting, Interventionist research

Paper type Research paper

1. Introduction

“The intersection of...*corporate governance*...and *management accounting [information]* has been given little interest from researchers” Johanson (2008, p.371). This is because the accounting community has tended to study how externally published financial accounting information is implicated in corporate governance, rather than management accounting information (Johanson, 2008). Moreover, the extant literature that considers this intersection (eg. Hough et al., 2015; Michaud, 2014; Manochin et al., 2011; Johanson, 2008; Parker 2008, 2003) has not “penetrate[d] [fully to] the very heart of director thinking and behaviour” (Parker, 2008, pp. 86). As such, the aim of this paper is to investigate how board members, of an English Further Education College understand and use management accounting information - within the specific context of the board meeting.

Corporate governance is a situated (McNulty et al., 2013) and socialized (Parker and Hoque, 2015) activity. At its heart lies the board, comprised of executive and non-executive directors, who are responsible jointly for the governance of the organisation (Cornforth, 2012). At *board meetings* (Machold and Farquhar, 2013; Samra-Fredericks, 2000) directors seek to *collaborate* with each other through discussion (Bailey and Peck, 2013; Forbes and Milliken, 1999) and, where appropriate, non-executive directors monitor and *control* the actions of executive directors (Sundaramurthy and Lewis, 2003). Effective governance requires a skilful switching between control and collaboration within a board meeting (Nicholson et al. 2017; Roberts et al., 2005) because an over-emphasis on control and monitoring can have a negative impact on board effectiveness (Brennan et al., 2016). This article frames board activity using a control and collaboration perspective recognising that boards engage in other processes and behaviours such as strategizing (Pugliese et al., 2009); boundary spanning (Miller-Millesen, 2003); and resourcing the organization (Parker, 2003).

Non-executive directors are not involved in the day to day running of the organisation and the literature holds that non-executives will have a more limited *visibility* of certain aspects of the organisation than the executives (Brennan et al., 2016). Roberts et al. (2005) note that this difference in visibility impacts both the collaborative and control aspects of governance, highlighting that there is a mundane, yet crucial, driver of effective governance within a board. This is the non-executives’ “knowledge of the [organisation]” (pp. S19). This is because “[within a board] executive perceptions of the relevance and value of non-executive interventions, and indeed non-executives’ confidence in intervening, depend upon [the non-executives’] knowledge and understanding of the [organisation]” (pp. S19). If knowledge and understanding of an organisation is synonymous with the metaphor of visibility, the question then arises: how can non-executives develop an appropriate visibility of the organisation that they govern?

Management accounting information provides a possible solution to this visibility problem. As a powerful social technology management accounting can render an organisation visible (Sikka, 2013; Johanson, 2008), even to those who might be distanced from its operating activities (Abrahamsson et al., 2016) - for example non-executive board members. Hopwood (1987, pp. 225) asserts that it can “render visible in a quite particular manner the functioning of the operational core of [an] organisation”. Yet even though management accounting information has the potential to “render aspects of organisations visible and hence governable” (Paisey and Paisey, 2011, pp. 91), it does not follow immediately that the presentation of management accounting information to a board will automatically provide an effective visibility of the organisation. Three possible reasons for this are noted below.

Firstly, the relevant literature contains examples of management accounting information being presented to a board but being discussed minimally, or having little connection with general board discussion (eg. Hough et al. 2015, Johanson, 2008; Collier, 2005). Secondly, board members’ visibility of an organisation does not come entirely from the presentation of formal management accounting reports (Brennan et al. 2016; Parker and Hoque 2015). Visibility develops through a variety of board level learning processes, including informal discussion inside (Parker, 2008) and outside (Brennan et al., 2016) the board meeting. Finally, management accounting research has argued that it is only when understandings of management accounting numbers and calculations are *intertwined* with *operational understandings* that management accounting information can make aspects of the organisation visible in a meaningful manner (Abrahamsson et al., 2016; Laine et al., 2016). This final theoretical argument arises from qualitative research conducted at an operational level, but has not been applied to board level research.

As such, this article presents and discusses a *board level* research project that was conducted at a large English Further Education College (Hill et al., 2016; Masunga; 2013). An *interventionist* approach is used (Suomola et al., 2014; Sunding and Odenrick, 2010). The intervention conceptualises a specific management accounting report that was being designed for presentation to the board as a *boundary object* (Carlile, 2002). To explore board members’ visibility of the organisation the notion of a *mental model* is deployed (Englund and Gerdin, 2015; Hall 2011).

The article is framed around the following research questions:

RQ1. What visibility do board members expect management accounting information to give in a board meeting?

RQ2. Why was there resistance to framing board meeting discussion around management accounting information?

By exploring these questions, this article is able to discuss a practical, yet theoretically derived, implication of its findings. This concerns the use of management accounting boundary objects at a board level.

The paper supports Parker (2007) and Cornforth & Edward's (1999) observation that, within a board meeting, collaborative 'micro-management' type talk is considered to lie outside of the acceptable remit of non-executive and executive board member interaction. This attitude can prevent non-executives from "tack[ing] back-and-forth" (Abrahamsson et al., 2016, pp. 162; Star, 2010, pp. 605) between summary management accounting information and operational understandings, within a board meeting. Most particularly, it can preclude an intertwining of management accounting information and other mental models of the organisation occurring within a boardroom.

A deeper understanding of boards where directors are reluctant to discuss management accounting information within the board meeting is offered. For the board studied, management accounting information primarily made executive control visible to non-executives. It did not provide the holistic understanding of the organisation that board members preferred to frame board discussion around. These contributions explain why management accounting information might not always render an organisation visible, in an expansive manner, within a board meeting. They also expose potential limitations of using management accounting information in the boardroom.

The paper is structured as follows. A theoretical framing and literature review is offered in section 2. Then, in the next section, the research approach is explained and the case organisation introduced. The research findings are presented and discussed in section 4. This allows the original research questions to be answered in section 5. The key implications of these findings are then discussed before a conclusion is offered.

2. Theoretical framing and literature review

A theoretical framing and literature review is now presented. Firstly, the notion of a mental model is introduced. This provides a theoretical foundation to investigate how management accounting information can make an organisation visible to board members. Then, the literature pertaining to the intersection of corporate governance and management accounting information is reviewed. The review highlights how board meeting discussion and board level learning processes can influence the visibility of an organisation that board members have. Finally, management accounting information is framed as a boundary object.

2.1 Mental models and visibility

Learning (Brennan et al., 2016; Roberts et al., 2005) and sensemaking processes (Chandler, 2002) can provide partial and fallible visibilities of reality (Elder-Vas, 2012). Subjective visibilities (Bhaskar, 1998a) can lead to understandings being formed, and deeper understandings can, in turn, lead to richer visibilities being

obtained (Bhaskar, 1998b). When a subjective understanding becomes fairly stable over time, this thought pattern can be conceptualised as a mental model (Hall, 2011). A mental model is a theoretical construct that captures a fallible and partial representation of the internalised, sign driven, sensemaking occurring within a knower (Englund and Gerdin, 2015; Chandler, 2002; de Haas and Algera, 2002). Mental models are neither the reality known, or the understanding of that reality. They are simply a conceptual tool that facilitates a discussion of the complicated connection between knowing and that which is known (eg. Elder-Vass, 2012; Ahrens and Khalifa, 2013). Thus, by studying mental models, as located within learning and sensemaking processes, it is possible to study visibilities of an organisation.

Mental models can be confirmed or built (Hall, 2011), general or context specific (Englund and Gerdin, 2015). They can be used to: reason qualitatively about situations; reason about relationships within systems; and estimate approximate magnitudes. However, they are often incomplete in technical terms (Hall, 2011). At a board level, Miller (2002) and Parker (2007) have both noted that non-executives can fall back onto relying upon mental models that they have used in other organisations, that might not be fully appropriate to the specific organisation they are governing. Even though mental models are unique to an individual, several individuals do not need identical mental models to create a shared understanding. A board can arrive at a shared understanding when individuals have compatible mental models (Bailey and Peck, 2013).

The focus of this paper is mental models that are connected with management accounting information. Research suggests that people can have technical mental models of management accounting ideas and data, but that these technical mental models might not necessarily be linked strongly to operational reality (Wouters and Wilderom, 2008). Additionally, people can have effective mental models of operational activities that are not linked strongly to technical mental models of management accounting information (Otley and Fakiolas, 2000). Abrahamsson et al. (2016) argue that it is only when mental models of management accounting information are intertwined with mental models of operational activities that management accounting information is able to render an organisation cogently visible. This notion of the intertwining of mental models is central to the argument made in this paper.

The question then arises: how can mental models of management accounting information become intertwined with mental models of operational activities, and hence create an expansive visibility of an organisation? The management accounting literature suggests an answer that has been observed to hold at the operational level. Intertwining occurs when management accounting information becomes implicated in day-to-day, collaborative, problem solving talk (Abrahamsson et al., 2016; Hall, 2011). For example, mental models of operational knowledge can be used to imbue management accounting data with meaning through problem

solving talk (Abrahamsson et al., 2016). Such intertwining can occur when managers need to make sense of management accounting information. Abrahamsson et al. (2016) offer a second example of intertwining. Mental models of management accounting information can be used to explore; confirm; reject; and even change mental models of operational knowledge. If these management accounting led processes occur, they can intertwine models of management accounting with models of the operational. In both of these examples the implications are the same: effective intertwining can lead to enhanced organisational visibility.

This intertwining of mental models of management accounting information and operational activities has been identified as occurring at an operational level. However, the intertwining of mental models has not been studied at a board level. What has been studied is how management accounting information is used at a board level. This literature is now considered.

2.2 The intersection of corporate governance and management accounting information

The intersection of the corporate governance and management accounting information literature is summarised in Appendix 1. Some papers claim that management accounting information enjoys significant use within the board meeting itself (Michaud, 2014; Manochin et al., 2011; Johanson 2008; Parker 2008, 2003). Others observe the importance of management accounting information within board level processes, but not necessarily the board meeting itself (Saj, 2011; Ratnatunga and Alam, 2011; Roy, 2011). However, Hough et al. (2015) and Collier (2005) highlight the relative unimportance of management accounting information within the board meeting. Noting the disparity in these empirical results, two board level activities that are common to all boards are now discussed. These are board meeting discussion and non-executive learning processes.

Board meeting discussion takes place within a dynamic of control and collaboration. Control can occur when non-executive directors use management accounting information to monitor the actions of executive directors (Michaud, 2014; Saj, 2013; Johanson, 2008). Collaboration can arise when management accounting information is used to inform strategic discussion between the executives and non-executives (Michaud, 2014; Bailey and Peck, 2013, Ratnatunga and Alam, 2011; Johanson, 2008). Some writers frame control and collaboration as two distinct activities that need to be balanced (Sundaramurthy and Lewis, 2003) whilst others appear to see them as existing together within a common accountability continuum (Brennan et al., 2016; Roberts et al. 2005). It is important to note that the collaborative strategic discussion enacted within a board meeting is different to the collaborative problem solving that occurs at the operational level and outside of the board meeting. Moreover, within the board meeting itself, collaborative 'micro-management' type talk is considered to lie outside of the acceptable remit of non-executive and executive board member interaction (Parker, 2007; Cornforth & Edwards, 1999).

The learning processes of non-executive board members (Brennan et al., 2016) that can lead to understanding are now considered. Brennan et al. (2016), building upon Nonaka (1994; and Konno, 1998) argue that non-executive learning occurs both inside and outside of the boardroom via formal and informal processes. An example of a learning process is the presentation and accompanying discussion of management accounting information within a board meeting (Roy, 2011; Johanson, 2008). But learning, and hence enhanced visibility, does not occur simply through the formal presentation and discussion of reports at a board meeting (Parker and Hoque, 2015). Spontaneous questioning by the non-executives, that arises from ad hoc comments made by the executives, can create learning within a board meeting too (Parker, 2003). Moreover, there are many informal learning processes that can occur outside of the boardroom, for example: chats between non-executives and executives; site visits made by the non-executives; and collaborative board away days (Brennan et al., 2016).

This article assumes that non-executives need a strong understanding of the organisation that they govern (Roy, 2011; Thomas et al., 2009; Johanson, 2008, Roberts et al., 2005; Sundaramurthy and Lewis, 2003; cf. Brennan et al., 2016) so that they are able to gain the respect of the executives and govern effectively (Roberts et al., 2005). Without this understanding effective collaboration between non-executives and executives can become increasingly difficult (Baysinger and Hoskisson, 1990). However, studies indicate that non-executives sometimes do not understand the organisations that they govern (Bailey and Peck, 2013; Johanson, 2008; Rutherford et al., 2007; Baysinger and Hoskisson, 1990). Therefore, this paper considers how understandings of management accounting information are implicated in corporate governance - with specific attention being given to the use of management accounting information within the board meeting.

To close this aspect of the review, the corporate governance literature pertaining to English Further Education Colleges is now discussed. Several studies have found that non-executive board members of colleges realise that ensuring the financial sustainability of these non-profit (Sala, 2003) institutions is a key governance task (Hill et al., 2016; Masunga; 2013). However, Gleeson (et al., 2011; and Shain, 1999) highlight that a focus upon the control of finance is not always considered to be good governance practice and that boards should give greater attention to the core business of teaching than to financial control. The complicated and non-business like funding regime that colleges operate within can make even the control of finance a challenging and sometimes bewildering task, especially for board members from a business background (Hill and James, 2017; Hill et al. 2016). Yet this business background of many college non-executives has been observed to lead to positive governance interventions (Cornforth and Edwards, 1999). Finally, and in harmony with the general corporate governance literature, Hill and James (2017) report that a chair's responsibilities include ensuring that executives and senior managers present appropriate information at board meetings.

2.3 Management accounting as a boundary object

Finally, a theoretical framing of management accounting information is offered. This provides a platform to study the intersection of corporate governance and management accounting information.

Management accounting information can be conceptualised as a boundary object (Laine et al., 2016; Star, 2010, Carlile, 2002). A boundary object is a means of managing visibilities and understandings at a given boundary (Carlile, 2002). Within the board meeting, management accounting information is located on the boundary between the executives and the non-executives. This is because the executives prepare the information for presentation to, and discussion with, the non-executives (Brennan et al., 2016). Moreover, within the dynamics of the board meeting, such information also lies on the boundary between the board meeting itself and the operational reality of the organisation. This operational reality exists outside of the board meeting (Elder-Vass, 2012; Fleetwood, 2005; Collier, 1994) but needs to be visible, if only in part, to enable directors to govern effectively from the confines of the boardroom.

Carlile (2002) highlights three key aspects of a boundary object. Firstly, an effective boundary object enables communication by establishing a shared language for individuals to represent knowledge (Carlile, 2002). Studies at both the board level (Michaud, 2014) and the operational level (Abrahamsson et al., 2016) have shown that management accounting boundary objects can facilitate management accounting talk amongst people from different backgrounds, to the extent that such accounting talk becomes a living language (Hall, 2010). Secondly, a productive boundary object can help individuals to learn about differences that exist across boundaries (Carlile, 2002). Thirdly, an enabling boundary object is embedded within collaborative processes that facilitate communication and learning. These collaborative processes can ultimately transform a person's visibility of an organisation or issue (Carlile, 2002).

There are many examples of management accounting boundary objects being located in processes that have enabled learning, and thus created visibilities of organisations or issues (Laine et al., 2016; Abrahamsson et al., 2016; Busco and Quattone, 2015; Englund and Gerdin, 2015; Wouters and Roijmans, 2011; Wouters and Wilderom; 2008; de Haas and Kleingeld, 1999). All of these examples, however, relate primarily to operational level studies. A contribution of this study is that it seeks to deploy the notion of a boundary object at a board level.

A recurring theme of the operational level management accounting literature is that an enabling boundary object facilitates collaborative problem solving (Laine et al., 2016; Chenhall, 2003). Such successful problem solving can occur when: all users of a boundary object are free to experiment with its design and construction (Wouters and Roijmans, 2011); there is sufficient flexibility to allow for the interrogation and change of the boundary object (Abrahamsson et al., 2016); weaknesses can be easily repaired (Englund and Gerdin, 2015); and assumptions driving its construction are open to change due to innovative questioning and

dialogue (de Haas and Kleingeld, 1999). This sense of flexibility, interrogation and change harmonises with the general boundary object literature. Star (2010) evokes the image of a continual “tack[ing] back-and-forth” (pp. 605) - towards the boundary object and then away from it - to summarise the enabling work processes that boundary objects can inspire.

2.4 Summary

To conclude: board members, including non-executives, need to have the organisation that they govern rendered visible in an effective way. When conceptualised as a boundary object, management accounting information, can help to provide such visibility. However, the operational level management accounting literature observes that mental models of management accounting information have to be intertwined with models of operational activities for an effective visibility to be realised. This topic is now explored at a board level using empirical data obtained from an interventionist research project conducted at an English Further Education College.

3. Research approach and the case organisation

3.1 Choice of the case organisation

Successful board level governance research requires that the black box of the board room be penetrated (Parker and Hoque, 2015). For this paper, access into the board room was facilitated through the lead researcher’s position as chair of the Audit and Risk Committee of a large English Further Education college. As a board member, the lead researcher had often observed resistance, or ‘determined apathy’, towards interacting with management accounting information within the board meeting. A desire to better understand this pervasive observation motivated this research.

3.2 Intervention opportunity and interventionist methodology

An interventionist research approach was adopted. This is a type of action research that promotes engaged scholarship (Suomola et al., 2014; Sunding and Odenrick, 2010; Jonsson and Lukka, 2007). “Many talk about it but few do it” (Westin and Roberts, 2010, p. 8).

In this particular case, the intervention opportunity arose in the general rhythm of governance and was not created artificially. The chair requested that the executive devise, and present to the board, a one-page governance document that summarised key financial and other performance data upon it. The aim of this boundary object was to provide an ‘at a glance visibility’ of the organisation for non-

executives at each board meeting. The chair would later state “*I call it learning to see.*” The finance director led the executive in designing and preparing the boundary object. The initial design was also influenced by the chair, and several other non-executives, who had voiced a desire to see the performance of the college split by department. When a draft boundary object (Appendix 2) was presented at a board meeting the response of the non-executives was muted and unenthusiastic. At this point the lead researcher approached the chair and CEO and offered to conduct an interventionist research project to better understand this feedback. This offer was accepted warmly.

The intervention centred upon 19 semi-structured interviews with the entire executive team (7 interviews) and the majority of the non-executives (12 interviews). A summary description of the interviewees is set out at Appendix 3. The interviews were designed to expose relevant mental models. Most particularly, the interviews sought to uncover both shared and divergent understandings amongst board members. This is because it requires a delicate balance of both shared and divergent understandings to create an effective board (Bailey and Peck, 2013; Sundaramurthy and Lewis, 2003). All the interviews, except the initial scoping interview with the CEO, were recorded and transcribed professionally. Appropriate consideration was given to the fact that some of the interviews were with elites (Odendahl and Shaw, 2001), for example the CEO and the chair. Careful attention was also paid to board members who might be construed as being marginalised, namely the staff and student board representatives (Modell, 2015). Additionally, a diary was kept logging key events and two operational meetings were attended. After an initial analysis of the interviews, a draft intervention report was discussed with the CEO and chair in a private meeting. A final report was then issued to the entire board and tabled as a discussion item at a main board meeting.

During the intervention, the lead researcher avoided positioning himself as an expert consultant by explicitly approaching the intervention as an academic colleague seeking to understand the research issues. Also, as a board member and an academic researcher, the lead researcher was both an insider and an outsider with respect to the board. Accordingly, the co-author exerted a coaching influence on the lead researcher when handling both the emic (insider) and etic (outsider) aspects of their location in the research process (Jonsson and Lukka, 2007; Dumay, 2010). Moreover, the co-author had no contact with the college to aid the production of a critically reflexive account (Johnson and Duberley, 2003). At all times the research process was overseen by the researchers’ institutional ethics committee.

3.3 Analysis and interpretation

Analysis of the interview data occurred both before and after the intervention report was issued to the college. This analysis was conducted by grouping thematically extracts from the transcripts. At all times careful attention was given to the

interpretation of these interview extracts (Ahrens and Khalifa, 2013). This was facilitated by adopting the following hermeneutical posture (Hartwig, 2007). Firstly, as discussed above, the researchers were acutely aware of their own location in the intervention process and how this might impact the interpretation and analysis of the interviews. Secondly, the theory laden assumptions of both the intervention and the analysis process, were laid open to critique on several occasions. Finally, the limitations and subjectivity of the responses of the interviewees was recognised. This last point follows Bhaskar's (1998, p. xvi) assertion that "actors accounts are both corrigible and limited by the existence of unacknowledged conditions, unintended consequences, tacit skills and unconscious motives". This hermeneutical posture led to the interview extracts being interpreted in the context of the entire intervention, and not just as isolated sections of narrative.

3.4 The case study sector and organisation

The organisation studied was an English Further Education ('FE') college. FE is an important sector in England, turning over more than £8 billion per annum and training approximately three million people each year (Hill et al., 2016). FE has a vocational focus and is located between statutory schooling and higher education. English FE colleges are funded primarily by the government, but display a significant autonomy in their approach to governance processes (AOC, 2015). Due to governmental austerity measures (BIS, 2015), the FE sector has faced significant cuts in funding since 2010. Table I gives a summary of the financial performance of the sector as a whole. This suggests that the governance of FE colleges is a challenging and important issue.

	2010/11	2011/12	2012/13	2013/14
Operating surplus/deficit of whole FE college sector (£ million)	169	142	13	(34)
Total number of colleges	254	250	245	244
<i>Percentage of colleges in operating deficit</i>	20%	25%	36%	45%
Extracted from BIS (2015)				

The case study organisation generated an operating loss in 2010/11, however, it returned small operating surpluses between 2012 and 2014. In 2013/14, when the intervention took place, the case study organisation reported an annual turnover of £54 million, employed about 1,000 members of staff and delivered training and education across 25 departments.

The college board comprised of an executive CEO and 13 non-executive members, who are termed governors in the FE sector. Six other executives were also included in the interventionist project as they attend, and take an active part in, all board meetings – even though they are not statutory directors. The board has three committees, where non-executives carry out detailed monitoring and scrutiny of the organisation. These committees transact their business outside of the main board meeting and report their findings back to the main board. One committee, entitled The Finance, Employment and General Purpose Committee, has a specific remit to scrutinise the financial control of the college. The research project considered the board meeting in particular, and did not investigate the committee structure.

4. Findings and initial discussion

Rather than tell the story of the intervention in chronological order, several aspects of the entire intervention will now be considered in turn.

4.1 A visibility of executive control

The interviews gave board members an opportunity to tack back-and-forth between the proposed boundary object, their visibilities and understandings of the college, and management accounting information in general. Particular focus was paid to the specific management accounting information displayed on the boundary object and how that information was presented. Interviewees were encouraged to suggest how the boundary object could be (re)designed to give the visibility of the organisation that they desired.

Even though the intervention focussed upon the design of the boundary object, the overwhelming response to it was an underwhelming ‘so what!’ This was not due primarily to differences of opinion as to which measurements or indicators to use, the lack of trend information, or even how to present data visually on the boundary object. The muted response to the boundary object was expressed in terms of how it might be discussed within the board meeting. For example:

Non-executive: I don't know what you [could] do with this information. "Alright, Exec Team, Leadership Team, sort out those inadequate departments." Yes, okay, that's what we're trying to do. You haven't told us anything we don't know.

Executive: If you drill down and you find out that out of the 10 departments within that local college, 7 are doing really well, 2 are doing okay, middling, they're stunningly average, and 1 is disastrous, what's governors' role there?

These quotes summarise explicitly a pervasive opinion. Non executives could use the boundary object to monitor if executives were in control of a specific department, but it was uncertain as to how discussing the boundary object within the board

meeting could help non-executives obtain more than just a visibility of executive control. Analysis of the interview transcripts suggests that when management accounting data were used to refer to specific aspects of the college, non-executives tended to conceptualise them as decision switches, or control wires, within a management toolkit. Within the board meeting, non-executives could review the data, but only in a decision appraising manner such as: ‘was the switch activated correctly by the executive?’ or ‘was the control wire tensioned appropriately?’

This notion of management accounting providing a visibility of executive control was expressed in a variety of ways, sometimes in an implicit manner. For example, when such data was presented at the main board, this non-executive wanted a convincing story to accompany the presentation:

Non-executive: We should have access to the numbers, but more importantly we should have access to the story they tell. Now the good part is that if the execs have to write a story to explain what's going on, they have to look at the numbers and explain them to themselves [and to the non-executives], which they don't always do.

Here the reference to executive directors having to “explain [the numbers] to themselves” is an indication of a non-executive desire to stimulate control via a board reporting process. A potential outcome of such a control process is greater organisational visibility for the non-executives. However, the management accounting reporting process is interpreted primarily (“the good part”) as a control tool and not as an immediate form of non-executive organisational visibility.

Interviews were interpreted in the context of the intervention as a whole, as illustrated below. The non-executive chair, who was instrumental in requesting the boundary object, said:

Chair: I tell you what I want. I get absolutely sick of reading massive long documents and big packs of [board papers] I end up going backwards and forwards to try and remember what [a] figure was.... We need to be [kept] abreast of, in a simple way, without going into all the details and without managing it as executives, we need an overview of what's going on, and in a trend way.

The word “overview” could be referring to some kind of visibility of the organisation itself, it could be referring to a non-executive visibility of executive control, or it could be referring to a combination of both. The primary meaning of “overview” is potentially ambiguous when the quote is looked at in isolation, but locating the quote within the intervention as a whole allows it to be interpreted. After all the interviews had been conducted, a draft report was written and presented to the chair and the CEO in a private meeting. During the meeting the lead researcher suggested that the chair consider introducing the boundary object to the board meeting in a collaborative, problem solving manner. This could be done by saying something like ‘Let us not use this management accounting information within the board meeting to

control executive actions – instead, let us use it to collaborate together, to enrich our visibility of the organisation.’ This suggestion was not welcomed, or acted upon by the chair. As such, the *primary meaning* of the phrase “we need to be [kept] abreast...of what’s going on” is surely the expression of the chair’s desire for a visibility of executive control of the organisation - facilitated through management accounting information – and not a desire for a richer visibility of the organisation.

The quote also makes a very important point about the kind of talk that the chair wanted at the board meeting. The chair did not want non-executives to “manage the [organisation] as executives.” The implication of this is that the chair did not want non-executives to engage in a style of talk within the board meeting that was seen as encroaching into the domain of the executives. This interpretation is supported by numerous observations of board meetings by the lead researcher, where non-executives avoided talking with executives in an operational problem solving manner.

4.2 Management accounting “dashboards” are a kind of chimera – for some board members

During the intervention, the lead researcher was responsive to finding evidence of management accounting information being used to give an expansive visibility of organisational reality. However, the transcript data gives little evidence of this. Management accounting data was not championed as a powerful way of giving visibility of the organisation at the board meetings. For example:

Non-executive X: I think at one level, dashboards are a kind of chimera ... the idea that you can actually have one that's going to be sufficiently broad in its coverage, and 'helpful' in how it exposes what's going on: that might just be an impossibility!

Non-executive: I hate these dashboard things because I think unless you're in a very simple business, it's very difficult to choose the right indicators because we could have a different set of indicators for almost every department here, I think.

These quotes communicate a strong apathy towards management accounting information. The hope that a carefully designed management accounting report might give a desirable and expansive visibility of the organisation is “a chimera.” A chimera is something that is considered illusory or impossible to achieve. Moreover, these interviewees refer to the management accounting information as a “dashboard” even though this term was not used by the interviewer. This indicates that these board members primarily understood the boundary object as a series of measurements, or indicators. These non-executives did not think that it was likely that these measurements could be woven together, and intertwined with other

understandings, to form a tapestry that gave an expansive visibility of the organisation. This result is not limited to a number of non-executives, some of the executive team expressed a similar apathy towards a “balanced score card type” of reporting, too.

It would be wrong, however, to conclude that these excerpts demonstrate that board members thought that management accounting information should never be presented to the board. Non-executive X argues that “at one level dashboards are a kind of chimera”, but at another “level” asserted that:

Non-executive X: "a refined, sophisticated, thoughtful treatment of data and discussion of data,....very, very rarely goes on."

Here, this experienced non-executive, who believes that management accounting information might not be able to give an expansive visibility of the organisation, argues strongly for the presentation of data to the board. What matters most, though, is the refined and sophisticated discussion that the data is embedded within, and not the exact way that the data is presented.

These quotes suggest cogently that some of the board members thought that the boundary object was a kind of chimera. It promised to make the organisation visible in a helpful way, but could not deliver on its promise. This finding is also supported by what happened in the intervention, or more strictly what did not happen, as discussed next.

4.3 The inability of management accounting information to bring productive change within the board meeting

The boundary object split the organisation into 25 departments, presenting financial and non financial performance measurements, and indicators, in a spreadsheet format (Appendix 2). This departmental split was championed by the chair prior to the intervention and analysed the organisation in terms of each department’s income and contribution. Several non-executives, including the lead researcher, considered this departmental split to be the most appropriate way of presenting the management accounting information. However, after interviewing each member of the executive team it became apparent that whilst departmental data was utilised by executives in managing the organisation, this did not reflect the framing of strategic discussion by the executive team that occurred outside of the board meeting. This was clarified in the following exchange:

Interviewer: [funding for students who are] 14 to 15 [years], 16-18, 19-plus, Full-Cost Recovery, and Higher Education. Is that the way you speak in the Executive?

Executive: *Yes. We do most of our analytical work in those configurations because it is how the funding drives us.*

Interviewer: *I am starting to get a picture in my head. I think that, at a higher level, the Executive team starts to think in these funding streams, but the day-to-day performance management of the business [and the planning and budgeting process] seems to be based on departments and these contribution targets. Have I misunderstood that?*

Executive: *... you are absolutely right!*

As Miller (2002) and Parker (2007) have noticed previously, certain financially literate non-executives assumed that a departmental analysis, that they were familiar with from their professional experience, was the most appropriate way of presenting the management accounting information. But the executive team did not configure "most of [their strategic] analytical work" in this manner. Instead, they discussed funding streams in their totality before choosing to allocate a proportion of funding to specific departments at the level of the budget. Key funding contracts operated at an organisational level, not a department level, making departmental allocations of income an arbitrary internal apportionment. None of the non-executives interviewed realised this subtlety. Even though this finding was reported to the entire board and triggered deep learning for the lead researcher, no appetite for re-configuring the boundary object by funding stream was generated by the intervention report.

If management accounting information is capable of providing a helpful visibility of the organisation, at the level of the board meeting, it is possible that this finding would have led to a re-configuration of the boundary object. But it did not. This suggests that for this board, at this particular time, even the re-configuration of management accounting information in a manner that could have:

- enhanced the visibility of key funding flowing into the organisation, and
- better mirrored the way the executive framed strategic funding discussion within the executive team

was considered to be unimportant at the level of the board meeting.

The resistance to the boundary object was even greater than not wanting to re-configure it. As explained previously, after analysis of the interviews, a draft intervention report was written and discussed with the CEO and chair in a private meeting. The insight given by the report was commended. A report was then issued to the entire board, feedback was obtained and a final report was tabled as a discussion item at a board meeting. Again, the report was praised by several other board members. The report was tabled but, due to urgent other business, it was not discussed at that board meeting. The lead researcher decided actively to wait and see what the board did next. Nothing happened. Or more precisely, no boundary object - or any variant of it - appeared at any board meetings whilst the CEO

remained in post. Moreover, no board member requested that the intervention report be discussed in detail at a subsequent board meeting. The intervention did not bring about immediate productive change within the board. It failed to find a way to re-design the boundary object so that the board welcomed its use within the board meeting.

These findings suggest that board members did not want to frame board level discussion around the boundary object. If board members had wanted to frame board level discussion around management accounting information, they could have used the intervention to champion this desire, but they did not.

4.4 Mental models of the college as a whole

We now return back to the beginning of the interview sequence for a final time.

Interviewees were asked a general introductory question about how they thought about the college. A strong shared understanding was uncovered. Interviewees saw the college as a collection of physical locations, full of people, giving students a new opportunity, serving parents and enhancing the regional economy. Driven by its purpose and located within a political landscape, they saw a complicated organisation on a journey. It is important to highlight that when asked to explain how they thought about the college interviewees did not talk about the college as a combination of interconnected pieces of management accounting information. Instead interviewees used a descriptive narrative, or a holistic image, to express their understandings of the college.

Moreover, unless asked specifically to interact with management accounting information by the interviewer, the transcripts contain very little evidence of interviewees using management accounting information to frame talk about the college in general discussion. A couple of executives did refer to the student demographic using pie chart type stratifications, and a non-executive asserted that "[the college] needs...to get a black positive number at the bottom right-hand corner...[and have] enough money to keep reinvesting..." Yet, even though the interviews were conducted in a way that facilitated interviewees championing the use of management accounting information and management accounting centred talk, a general apathy towards using management accounting to frame discussion about the entire college pervaded the interviews.

If board members did not favour using mental models of management accounting information to frame talk about the organisation the question arises: how did board members think about the organisation when wanting to talk about it? Several unexpected and powerful exchanges occurred that uncovered the mental models that certain board members used. One executive used the following striking metaphor to explain how they thought about the college:

Executive: *The college is like a human body, parts of it need an enzyme adding, [another] bit is not required, [other bits are] poorly and we need to support them.*

Another non-executive exposed some of their internal mental imagery through evocative language:

Non-executive: *I think of it more as in process terms. I never have been somebody that has detailed models for very much..... There are not many days when I don't think about [the] representation of how soft iron is magnetised. Unmagnetised iron has got [lots of little] zones: [within each zone]... the lines of magnetisation...[are] all in one direction, but the zones are all around them, and therefore, the iron is unmagnetised. If you stroke it with a magnet, what it's having the effect of is lining up the zones, so they're all pointing in the same direction. There aren't many days when I don't think of that as a way of thinking about - how you get stuff to happen in an organisational context is to try to cause what are often not quite properly aligned parts of the system to just align a bit better.*

What is striking here is that both metaphors depend upon a holistic image, a whole body and an entire magnetic bar. The “poorly...bits” of the body, and the “un magnetized...zones” of the metal bar, are part of the whole metaphor but the primary image is of the whole, and not of the parts. Such models of understanding are termed holistic mental models in this article. It is important to note that these mental models were exposed voluntarily by the interviewees. They were not asked explicitly to expose them.

When interviewees avoided referring to the organisation using management accounting information this reluctance was probed gently. The following comment by an executive was triggered by an attempt by the researcher to explain the rationale for the research project:

Executive: *When you describe people who are just numbers and indicators and all that kind of thing, I'm sitting here listening to that thinking, “No, that's not going to get us where we need to be. What we need to be is this much more...” It is much more a Gestalt feel, isn't it, it's about the whole is more than the sum of its parts.....it's about understanding the complexity of where you are and not seeing it as being just about that one thing. That's what I am and that's how I think I can do things.*

The reference to a Gestalt expresses the interviewee's preferred conceptualisation of the organisation. Such a holistic mental model harmonises with previous quotes that favoured referring to the organisation as a whole, rather than as a series of carefully crafted management accounting measurements. It also unearths a link with the

cognitive idea that humans internally favour referring to complexity as a meaningful whole rather than as a collection of disparate, but interconnected fragments (Woolfolk, 2010).

4.5 Speed of understanding

One final vignette from the interview process is now given. The aim of this is not to highlight the two directors concerned. Instead, the reportage is presented to suggest that a board members' speed of understanding will affect the impact of management accounting information upon a board meeting.

The chair said:

“That’s the whole point of producing these sheets. We’re helping the governors.... You can’t be a governor if you can’t do the ... job. I’ll tell you now, [specific named] Governors will look at that and do exactly what I do [ie. spot areas of weakness and concern], straight away.”

The chair proclaims that board members will be able to spot areas of concern highlighted by the management accounting information “straight away”. But one of the specific board members mentioned by the chair would later say:

Non-executive: To be honest with you, I’m not massively numerical and if somebody plonks a spreadsheet in front of me, I need ten minutes to go away and look at it and tell me what it’s... You know that there are some people that can pick up a spreadsheet and then immediately they’re on to the key issues? I need ten minutes to go away and think, “Right, what’s this telling me?” and look at it and come back.

I’ve got colleagues who can pick up a very big spreadsheet and very quickly tell you what’s going on in that company. I’m not in that camp. I want to meet the MD, I want to listen to him, I want to have a look around the [organisation], I want to see what’s going on, I want to listen to him.

This vignette demonstrates that for some board members, time is needed to make sense of management accounting information. Whilst spotting areas of concern can be done quickly by certain board members, it can take other board members significant time to understand management accounting information. Moreover, for this non-executive, at least, they simply did not like interacting with management accounting information. They wanted to talk to people and to experience an organisation learn about it. They did not want to use a “very big spreadsheet” to gain a visibility of the organisation. These ideas are developed in the discussion that follows.

5. Answering the research questions and further discussion

The research questions posed at the beginning of the article will now be answered. The conclusions reached are based upon an analysis of the interviews, as located within the intervention as a whole. They are supported by the lead researcher's observations, as a board member, of the board in action at board meetings. A limitation of this triangulation is that the board meeting observations were not analysed in a systematic manner.

5.1 RQ1. What visibility do board members expect management accounting information to give in a board meeting?

Within the board meeting, board members expected management accounting information to render executive control visible. It gave non-executives an opportunity to review the control that executives had of the organisation. The mental models that were formed as a result of a review of executive control acted as control wires or decision switches, connecting the executives with the organisation. Non-executives could 'see' if a control wire was in place (or not) and see if it was tensioned appropriately. But in the context of the discussion at the board meeting, little else was made visible. The hope that management accounting information might give an expansive, and desirable, visibility of the entire organisation was considered to be illusory: even a chimera.

5.2 RQ2. Why was there resistance to framing board meeting discussion around management accounting information?

There were several reasons why there was resistance to framing board meeting discussion around management accounting information. Firstly, as explained above, management accounting information was seen primarily as a control tool within the board meeting. Its role was to provide a visibility of executive control, it was not to frame general board level discussion.

Secondly, the interviews uncovered evidence that supports the cognitive idea that, internally, humans favour referring to complexity as a meaningful whole rather than as a collection of disparate, but interconnected fragments (Woolfolk, 2010). The holistic mental models that board members expressed of the college as a whole did not have an immediate connection to the management accounting boundary object. The implication of this is that board members did not consider that the boundary object framed the college in a way that promoted general discussion about the college as whole.

Thirdly, in a manner reminiscent of Parker (2007) and Cornforth and Edwards (1999) non-executives did not want to engage in operational type talk within the board

meeting. Non-executives did not want to be seen to be “managing [the organisation] ... as executives” within the board meeting. Management accounting information is designed primarily as a management tool. The intervention suggests that interacting with management accounting information within the board meeting, in any way other than to review executive control, is a possible encroachment into the domain of day to day management, and might not be socially appropriate within the board meeting.

Fourthly, the notion of speed needs to be considered. The findings demonstrate that for some board members, the connectivity between management accounting information and organisational reality is not immediate. Where a board member is unable to make an immediate, or quick, connection with management accounting information – within the board meeting – this reduces the potential power of management accounting information to be used to frame discussion.

When synthesised, these findings suggest a pervasive lack of desire for management accounting to frame general discussion within the board meeting. A practical implication of these findings is developed in the discussion that follows below.

5.3 What does this intervention teach interventionist researchers and practitioners about using management accounting boundary objects within a board context?

“Stories don't always have happy endings.” This stopped him.

Stories [are] wild, wild animals and [go] off in directions you don't expect.”

Patrick Ness, *A Monster Calls*

The “happy ending” to this story would be to report that the intervention brought about productive change through the (re)design of management accounting information. This is not the case. The management accounting boundary object was not adopted for use within the board meeting whilst the CEO remained in tenure. However, a reflection on the intervention as a whole highlights some key implications about the use of management accounting boundary objects at a board level.

The intervention demonstrates that trying to change the design and presentation of management accounting measurements and metrics is not necessarily sufficient to bring about productive change within a board meeting. A sensitivity to the collaboration and control dynamic within the board itself is also required. For the board studied, management accounting information was embedded primarily within a control dynamic within the board meeting. The hold that control (Argyris, 1990) had upon management accounting information appears to have stopped management accounting information from being used in a more dynamic, collaborative manner, both within the board meeting and within the intervention itself. Interventionist researchers and practitioners are minded to beware of the powerful control dynamic

that exists within board level processes, and the impact that this might have upon the use of management accounting information.

Noting this control dynamic, the notion of a boundary can be further refined. Prior to the intervention the boundary object was conceptualised as sitting on two key boundaries. It was conceptualised as sitting on the boundary between executive and non-executive collaboration. It was also conceptualised as mediating the boundary between the board meeting and organisation because of its potential to give a visibility of the organisation at a distance. The intervention teaches interventionist researchers and practitioners that the boundary object was also positioned on a third boundary: the boundary between collaboration and control - within the board meeting itself and the intervention process, too. The implication of this result is that it must not be naively assumed that collaboration amongst a board can be facilitated without an awareness of control issues – both inside and outside the board room. Simply calling some management accounting information a boundary object does not mean that it will be used in a collaborative manner. This result harmonises with Barrett and Oborn (2010) who observe how control can prevent collaborative working and knowledge sharing at an operational level.

Developing the theme of facilitating collaborative working, an analysis of the intervention strategy adopted reveals weaknesses with the intervention design itself. Even though the research team were conversant with the more informal and dynamic styles of interventionist research (eg. Daniels et al. 2010) that are specifically designed to encourage collaborative working, an interview and report approach was adopted by the intervention. From a critically self-reflexive perspective (Humphrey, 2014; Dumay, 2010), this semi-formal and problem solving style felt radical, collaborative and a major departure from the usual style of board business for the lead researcher. Yet private interviews, combined with the publication of a carefully written report to the board, were unable to create collaborative change within the board studied. The work processes of the intervention were unable to facilitate productive change. As in Hough et al. (2015) this intervention gives another instructive empirical example of how difficult it can be to create collaborative activity around management accounting data within a board.

It must be noted that at the beginning of the intervention more radical forms of intervention were considered. These were discounted because the lead researcher, as an insider, did not have the emotional resilience or theoretical sensitivity to advocate a more collaborative, less formal, style of intervention. For example, the project was badged as action research to fellow board members and this felt incredibly innovative. Where interventionist researchers and practitioners want to facilitate collaborative working within boards, centred upon management accounting information, this article commends the adoption of bold, creative interventions. Such interventions need to be designed to accentuate collaborative working between the executives and non-executive whilst reducing the negative aspects of control

dynamics. It is hoped that the lived experience of the lead researcher, described here, gives courage to future researchers to achieve this.

5.4 The implication of board level talk not being “operational”

In the board studied, non-executives did not want to engage in operational type talk within the board meeting. For example, the chair stated that they wanted the board meeting discussion to progress “without going into all the details and without managing it as executives.” This reluctance to engage into the domain of the executives within the board meeting has been highlighted by Parker (2007) and Cornforth and Edwards (1999). However, the implications of this resistance to talk in an operational manner at the board meeting have not been fully elaborated in the literature. A key implication of not engaging in operational talk at the board meeting is now highlighted.

As explained in the literature review, at the operational level, if management accounting is not discussed in an operational, problem solving manner – where people can “tack back-and-forth” (Star, 2010, pp. 605) between it and other understandings – management accounting information is unable to give a rich, expansive visibility of an organisation (Abrahamsson et al., 2016). This is because technical management accounting understandings need to be intertwined with operational understandings to create such a visibility (Abrahamsson et al., 2016, Laine et al., 2016). Thus, where a board is reluctant to engage in operational talk within the board meeting itself, management accounting information will never be able to give a rich and expansive visibility of the organisation through the board meeting alone. An intertwining of technical management accounting understandings and operational understandings will never occur. Ironically, the good governance practice of non-executives not encroaching upon executive matters, is also the practice that prevents non-executives from developing a meaningful visibility of the organisation using management accounting information within the board meeting.

Hough et al. (2014) call for action research to investigate how learning cultures and board routines might be developed to stimulate board level discussion around management accounting information. Brennan et al. (2016) harmonise on this point stating that “[this problem] cannot be addressed with more information. Rather, better processes of information/knowledge exchanging, sharing and creation are required” (pp. 159). The challenge for interventionist researchers and practitioners is to understand what kind of social setting is required for non-executives to be able to interact with management accounting information in a way that allows them to gain the visibility of the organisation that they need. Such a setting would need to facilitate management accounting talk becoming a living language (Laine et al., 2016, Hall, 2010), something that was not the case for the board studied. It would have to allow non-executives to talk to executives, and possibly managers and employees, in a way that fused operational understanding and management accounting data in a

coherent manner (Abrahamson et al., 2016). It would also need to allow non-executives to interact with management accounting information at a speed that they were comfortable with. However, even though it would be appropriate to make such an opportunity available to all non-executives, some might not want to engage in such a process.

This article suggests that the most appropriate place for non-executives to be given the opportunity to engage with management accounting information, in a manner that provides a meaningful visibility of the organisation, is outside of the formal board meeting context. This is because the type of talk, and collaborative activity, required to make the organisation visible to non-executives would need to be facilitated and encouraged in a manner that the formal board meeting does not tend to stimulate. It might be argued that the appropriate place for such interaction would be a sub-committee. This might be the case, but where a control dynamic dominates a sub-committee, it is unlikely that a sub-committee would be the most appropriate environment for this to take place. Accordingly, this article calls for research into the creation of 'out of board meeting' experiences for non-executives, to allow them to engage with management accounting information in a way that helps them gain the organisational visibility they require. What sets this call apart from things such as factory tours etc. is its attention to fusing management accounting information and operational talk, for non-executives. Emotionally (Samra-Fredericks, 2000; Brundin and Nordqvist, 2008) and socially (Huse, 2005) this would require the executives to understand why such an 'out of board meeting' experience was required. The difficulty, and perhaps impossibility, of facilitating such an encounter is not underestimated.

6. Conclusion

This article contributes to the literature that considers the intersection of corporate governance and management accounting information. It also develops the management accounting and boundary object literature, by locating its study of management accounting information at a board level and not an operational level. Additionally, it contributes rich empirical evidence to the qualitative non-profit governance literature (Parker and Hoque, 2015; McNulty et al., 2013) with its study of an English Further Education College.

Empirically, the findings support Parker (2007) and Cornforth and Edward's (1999) observation that non-executives do not want to engage in operational type talk within the board meeting. A significant implication of this observation has been developed theoretically. Management accounting information can only give an expansive visibility of an organisation if it is fused with operational understandings. This fusion, or intertwining, takes place within operational type, problem solving talk. If this type of talk is not present within a board meeting, non-executives will never gain the

visibility of an organisation - that can be mediated using management accounting information - from the board meeting alone.

By studying the mental models of board members a deeper understanding of directors' attitudes and boardroom behaviour has been offered. It has been argued that within a boardroom, where understandings of management accounting information are not intertwined with operational understandings, management accounting information primarily renders executive control visible. Within such boardrooms, management accounting information does not provide the holistic mental model of an organisation around which board members prefer to frame discussion. This insight explains why board members may be reluctant to structure their boardroom discussion around management accounting information. Moreover, by studying directors' mental models this article has begun to penetrate to the "very heart of director thinking and behaviour [within the boardroom]" (Parker, 2008, pp. 86)

These contributions explain why management accounting information might not always render an organisation visible, in an expansive manner, within a board meeting. They also expose potential limitations of using management accounting information in the boardroom. Recognising these limitations, the article has contributed some novel, yet unsubstantiated, suggestions to encourage the use of management accounting information at a board level.

The methodology adopted has two key weaknesses. The findings are based upon a set of interviews (Smith and Elger, 2014) and the project was not a longitudinal case study (Archer, 2003). The fact that the lead researcher served on the board of the organisation for 8 years mitigates this weakness. Secondly, the extraction of mental models is a fallible enterprise (Hartwig, 2007). Mental models of complex organisations, and sophisticated processes like governance, take time to develop. Knowledge can become so embedded within a knower that it might not be directly observable using the methodology employed here. Further work is called for that uncovers how management accounting ideas are embedded, even if invisibly, within experienced board members over time.

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