

Managing the performance of collaborative innovation

PhD Thesis

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I declare that this document is an independent and original piece of research carried out by myself with guidance from my supervisor and comments from other academics where appropriate (for example at conference presentations). The work is therefore substantially my own and is based on original work carried out entirely by myself. The research is based on two substantial case studies, both of which were identified and brought to the point of being accessible for research activity by myself, and as such I can confidently claim that this work is a product of my own academic endeavours from initial conception through to final authorship.

Having said the above, this work would never have been possible without the consistent, thoughtful, calming and insightful support of my supervisor, Distinguished Professor David Otley. Acting not only as my guide to the PhD process but also as an academic mentor, David has helped me understand the world I am joining and given me the best possible start in my academic career. No amount of thanks would be enough. I would also like to thank Karin Tusting for all of her expert tuition and support in helping me to get to grips with the challenging topic of discourse analysis. Finally, I want to acknowledge the trust and support of my department at Lancaster, and in particular Ken Peasnell and Steve Young, both of whom have showed unquestioning support and encouragement for my projects, even when they did not have a clue what I was doing or where it might end up.

Thank you for reviewing this thesis, which I submit in the hope that it meets the standards necessary for a PhD.

Chris Ford

Contents

	Page
Introduction	4
Part A: Collaborative Systems of Accountability	9
A1. Introduction	9
A2. Accountability in organisations	11
A2.1 Systems of accountability: nodes and linkages	11
A2.3 Collaborations and accountability	16
A3. Methodology	18
A3.1 Theory Generation from Qualitative Case Studies	18
A3.2 Data Collection and Analysis	21
A4. The Descent of The Shard	24
A4, Period 1: Ideation	24
A4, Period 2: Extension	25
A4, Period 3: Transmission and Systematisation	28
A4, Period 4: Relocation and Execution	33
A5. Discussion	35
A5.1 Convening	36
A5.2 Constructing	37
A5.2.1 Constructing: The Process	37
A5.2.2 Constructing: The Outcomes	39
A5.3 Managing Collaborative Accountability	40
Part B: Ecosystem Performance Management	45
B1. Introduction	45
B2. Literature Review	48
B2.1 Models for the creation and analysis of management control systems	48
B2.1.1 The Balanced Scorecard	50
B2.1.2 Levers of Control	51
B2.1.3 Control as a Package	53
B2.1.4 Extended Framework	54
B2.1.5 Conceptual Model	55
B2.2 Model integration and use for analysis	56
B2.3 Performance goals and Accountability	58
B2.4 Performance goals and Accountability – Application to the case	60
B2.5 Business models and their interactions	61
B2.6 Business models and their interactions – Application to the case	65
B3. Methodology	66
B3.1 Feedback Interviews	66
B3.3 Levels of Analysis	67
B3.4 Data collection	68
B3.5 Data analysis	70
B3.6 Theory validation	72
B4. Findings	73
B4.1 Creation of the JVO	74

B4.2 Ecosystem oriented Business Models	78
B4.3 Business Models – First Order Analysis	84
B4.4 Systems of Accountability	88
B4.5. Accountability – First Order Analysis	93
B4.6 Performance Measurement and Management	95
B4.7 Performance Management - First Order Analysis	99
B5. Discussion	105
B5.1 JVO Vision, Rationale for Existence, and Business Model	106
B5.2 Accountability System Evolution	110
B5.3 Performance Management in practice	113
B6. Conclusions	116
B6.1 Business models	116
B6.2 Accountability	120
B6.3 Performance management	122
Part C: Balancing the Emic and Etic - Feedback Discourse Analysis	125
C1. Foreword	125
C2. Introduction	126
C3. Section 1: The Role of Feedback Interviews	128
C4. Section 2: Discourse Analysis ('DA') in Management Research	131
C5. The Feedback Discourse Analysis ('FDA') Framework	140
C6. Conclusions	153
Part D: Conclusions	155
Part A Conclusions	145
Part B Conclusions	157
Part C Conclusions	164
References & Appendices	166
Appendix I: Visual Interview Guide	
Appendix II: Sample Question Guide	
Appendix III: Nvivo Coding Example	
Appendix IV: Sample Text for Feedback Discourse Analysis	
Figures and Tables	
Figure 1: Types of accountability experienced by individuals (nodes)	14
Figure 2: The business model canvas	62
Figure 3: The RCOV Framework	64
Figure 4: Vision-based Business Model Conceptualisation	107
Figure 5: Science-Centred Incubation Business Model	108
Figure 6: Incubation Business models and Metrics for Open Innovation	113
Figure 7: Capital Accumulation Model of Ecosystem Performance	161
Table 1: Schedule of Interviews	22
Table 2: Additional Documents and Data Analysed	23
Table 3: Framework for the analysis of accountability management acts	40
Table 4: Summary of Data Collected	69

Introduction

The study of performance management to date has paid limited attention to developing a holistic understanding of systems that span multiple organizations. We know a great deal about systems within single organizations and dyadic relationships between two firms, but the design, development and use of control systems that span multiple organizations as they come together to collaborate, innovate, create and distribute value, is an area in need of further investigation. This thesis has as its focus the study of such multi-organizational control systems, and in particular those that rely heavily on non-hierarchical, negotiated and collaborative methods of performance management, as opposed to the more contractual and market-based control relationships that might exist within a supply chain.

This thesis is presented in four distinct but interrelated parts:

- Part A is the study of a single collaborative venture, investigating the underlying accountabilities that give control, and shape the direction of the project;
- Part B studies a Joint Venture Organisation ('JVO'), looking at control at both the level of the JVO itself, and the level of the ecosystem, being the group of organisations that it wishes to bring together and foster as a kind of scientific and business network;
- Part C is a separate methodological contribution developing what is termed 'Feedback Discourse Analysis' – a novel method employed in this thesis and created as a tool that allows a new perspective on the development of theory through interpretive or interventionist research.
- Part D presents a summarised set of conclusions from the thesis, highlights limitations, and suggests areas for further work.

The following introduction gives a brief overview of each of the three core parts of the thesis. The rest of the document continues as three relatively independent chapters each with their

own detailed introductions, literature reviews and case study analyses. These three parts are then brought together in the conclusions in Part D.

Part A – Collaborative Systems of Accountability

Part A presents a longitudinal case study of a single multi-stakeholder collaboration, taking a multi-perspective look at a nine-month project from the moment of ideation through to eventual execution. This study utilises accountability theory as its lens, a choice made part-way through the study as part of a grounded evolution of ideas as events and analysis unfolded. The intention of such an approach is to avoid undue focus on technical systems, which in these case were more or less non-existent, and instead to focus on the accountable intents and demands, however they were made and whatever effects they might have on individuals and organisations. By looking at all accountabilities, not just those hierarchically imposed or formally measured and managed, a much more holistic understanding of how accountability systems are implicated in the creation and control of collaborative ventures can be offered.

This part of the thesis contributes to our understanding of accountability in three ways, through: 1) the development of a three-stage process model that describes the convening, constructing and managing of a collaborative system of accountability and offer an understanding of the factors that affect systems development at each stage, 2) the creation of an abductively derived framework to guide researchers in the study and interpretation of accountability acts, and 3) a synthesis of accountability theory that offers researchers a model to guide the holistic study of accountability systems that exist within and between organizations.

Part B - Ecosystem Performance Management

Part B presents a case study of performance management within a newly formed joint venture organisation ('JVO'), created out of a strategic alliance between a FTSE 100 corporate drug discovery company, a large charity, and the UK government. The JVO was formed with the express purpose of providing a new form of biotech incubation to the UK, one based on the principles of collaboration and knowledge sharing, thereby facilitating the development of multiple collaborations between multiple different parties. This second study will address

issues of performance and control not from the perspective of each of these separate collaborations, but rather from the perspective of the JVO and those who manage, fund and influence it in its work. The study investigates the ways in which the performance drivers at both firm level and ecosystem level are understood and embedded in a form of organisational and multi-organisational control system. Of particular interest is that the JVO is set up to not make a profit in itself, or distribute profits back to its founders, and yet it has a responsibility to create and distribute value to them through its different activities.

To understand both the roles and control systems and the ways in which they are created, used and developed requires a three-stage approach to the study of this case: First it is necessary to investigate the business models and ecosystem aspirations of the founding partners and the JVO management, to understand what kinds of value creation and what intermediate or ultimate performance goals exist and have a bearing on the performance management approach; Secondly it is important to pay close attention to the different accountabilities that emerge from the business model, the associated goals of the founders, and the needs of different stakeholders as the JVO begins to attract tenants and partners. Finally, with this understanding of accountabilities, value creation and value capture expectations across different groups and different time horizons, it is possible to begin to model the firm level and ecosystem level approaches to performance management.

The findings and analysis from this study shed new light on a number of aspects of performance management as it relates to these new organisational forms.

Firstly, it offers a first-principles approach to understanding value creation and value capture, based on the close analysis of business models and organisational visions and goals. Whereas value creation objectives have primarily been assumed (in more established models of performance management) to mean the maximisation of financial value, and value capture has primarily been assumed to be focussed on the maximisation of capture by the firm under study (in established business model literature) this research establishes a number of alternative perspectives based on an ecosystemic, science-focussed view of value.

Secondly, the study builds on the ideas of multi-organisational accountability developed in Part A to help create an understanding of how different demands at different levels, and at different stages in the lifecycle of the JVO, come to take effect on the performance management and control systems in place. The particular roles of clans, socialisation, and enculturation allow the development of a rich, interpretive description of the way this type of organisational control manifests itself. Furthermore, it is possible through this rich picture to

understand the tensions and limitations within such a system, and to identify the challenges faced by the management of the JVO as the organisation evolves.

This leads to the third important contribution, which relates to ecosystem control system lifecycles and in particular the transition that begins to take place as a JVO is subjected to external forces through change within its funders, and system level forces brought about through its own growth aspirations. The research highlights a number of current issues being faced by the JVO and its funders, and establishes the need for further study beyond the PhD thesis in order to continue this extended, longitudinal analysis of an ecosystem, its central organisation, and the control systems that bring them together, bind them, and influence their activities and outcomes.

Part C - Balancing the Emic and Etic: Feedback Discourse Analysis

Part C is a detailed study of the methodology relating to the use and analysis of feedback interviews. These encounters are described as being those that take place when a researcher offers insights or provisional findings and analysis to the research participants, based on the research activities that they have engaged in within, or relating to, the host organisation. The origins of this part of the thesis are in three serendipitous events – firstly, a request by the CEO of the charity studied in Part A to receive general feedback on his organisation from the researcher, secondly, a decision by the researcher to take an elective module in Critical Discourse Analysis during the first, taught year of PhD study, and thirdly the attendance of the researcher at an intensive case study methods course run by Kari Lukka and Sven Modell, amongst others, whose insights into methodology sparked an interest in extending their ideas using discourse analysis.

The result of these fortunate accidents was a decision to much more critically analyse the methodologies of case study research in general (as can be seen in Part A, section 3), then contribute to these by focussing on the late-stage interactions between researcher and researched as a way of re-inserting the emic perspective into the later stages of analysis. This section draws on theories explored elsewhere in the thesis, notably those relating to accountability, to make clear the change in relationship between the parties when a feedback interview takes place, and the potential impact this has on the critical analysis of provisional research findings and theory development.

These insights need a robust yet parsimonious tool for their analysis, if such an approach is to be applied in practice by accounting researchers who are not eager to develop a full complement of critical discourse analysis techniques. Drawing on authoritative texts from the discourse literature, Part C develops what is termed “Feedback Discourse Analysis” as a structured, easily applied, yet methodologically robust way of accessing the valuable data contained within feedback interviews.

Part A: Collaborative Systems of Accountability

A1. Introduction

His Royal Highness Prince Andrew (“HRH”), The Duke of York, son of the Queen of England was about to step off the roof. But not just any roof. He would be launching himself into the London skyline from the 87th floor of the tallest skyscraper in Western Europe. HRH was shortly to become the first of 40 participants in a record breaking high-level charity fundraising abseil. This one-day event, the product of a 9 months collaboration between The Royal Family, two charities, property developers in the UK and Qatar, the military, professional fundraisers, professional mountaineers, high ropes stunt experts and a host of volunteers and paying participants, would raise over £2.5m for charity, and gain recognition as an exemplar fundraising event for its innovation, operation and exceptional fundraising success. The project known as “The Descent of The Shard” was about to begin.

Collaborations between multiple organisations, where control is negotiated rather than being reliant upon either market or hierarchical mechanisms (Lawrence, Hardy & Phillips, 2002), are an important area of economic activity. However, we have relatively little research that helps us to understand how control systems operate across the totality of such systems, where control must extend to cover multiple organizations rather than purely dyadic relationships (Chenhall, Hall & Smith, 2010). Berry (2005) suggests that to holistically study such a system we need to comprehensively address both nodes (the individuals and firms) and linkages (all of their interrelations). Since many of these linkages will initially be informal, and in fact may never become formal or contractual in nature, we need a theoretical language that can capture the richness and behavioural complexity of such a control system as it is being constructed and managed in use.

In this section we offer one approach to this problem: we draw upon accountability theory, which extends accounting beyond technical systems to include any system that influences the management and control of the organisation (Miller & O’Leary, 1987). In moving beyond accounting systems to think instead about ‘Systems of Accountability’ (Roberts & Scapens, 1985) we incorporate the study of broader social, ethical and operational aspects of organisational life. This perspective allows, even encourages, us to explore the spaces where accounting in its technical form does not exist (Choudhury, 1998) and to investigate these

absences as part of a more comprehensive examination of the accountability system in operation. The research question that we address in this study, therefore, is as follows: How can a system of accountability be created and enacted in order to manage a multi-organization collaboration?

To address this question we need to synthesise a wide ranging body of literature that has developed our understanding of accountability in organizations. This work extends through time and has evolved piecemeal to discuss accountability in various forms (Roberts, 1991; Sinclair, 1995; Ahrens, 1996; Laughlin, 1996; Roberts et al., 2006; Roberts, 2009; Jørgensen & Messner, 2010; McKeirnan, 2012), ways of enactment (Roberts et al., 2006; Messner, 2009; McKeirnan, 2012) as well as giving consideration to the times and spaces within which it is enacted (Schweiker, 1993; Dale, 2005). In drawing together these multiple threads of accountability theory we aim to more richly articulate the idea of institutionalised norms of accountability systems (Messner, 2009), then extend this to consider what happens when separate organizational norms collide, as entities come together and begin a collaborative venture.

The data for this research comes from a longitudinal case study of The Descent of the Shard, following it from shortly after the moment of ideation through the day of execution to the post-event analyses and discussions. The research draws in particular on interviews that span the multiple stakeholders and their evolving perspectives through the life of the project and after its completion, as well as having access to email correspondence, project documents and regular, less formal conversations with key individuals within the lead organization. Within this particular field study context the limited role played by technical accounting and the openly negotiated, and therefore highly visible, nature of the accountable relationships make this an ideal site for the investigation of collaborative systems of accountability.

The analysis of this data employs the temporal bracketing approach suggested by Langley (1999), incorporating the detailed study of critical incidents (Flanagan, 1954) within those temporal brackets. This approach offers a structured way of handling eclectic information from dynamic, non-linear settings (Langley, 1999), facilitating the development of theoretical insights. This section of the thesis contributes to the accounting literature and our understanding of accountability and control in the following three ways:

Firstly, a three-stage model is developed that explains the processes of *convening*, *constructing* and *managing* a collaborative system of accountability. Within the model the

different characteristics of lines of accountability are identified, considering the process of their formation and both the strength and flexibility of the system as it is created.

Secondly, an abductively derived framework is presented, which aims to guide researchers in the study and interpretation of accountability acts. This framework connects multiple sources of etic, theoretical knowledge relating to the attributes of, and approaches to, accountability management, with more pragmatic guidance for researchers engaged in the deep probing and interpreting of rich, emic insights.

Thirdly, the theoretical synthesis of accountability in its multiple forms, ways of enactment and spaces of enactment provides a level of depth and clarity to Messner's (2009) notion of normalised systems of accountability that has not previously been captured. This again offers a valuable platform for the theoretical or practical analysis of different accountability systems, in all their behavioural richness.

This part of the thesis proceeds as follows: Section two offers a review of the accountability literature and links this with considerations of inter-organisational collaborations, section three explains the methodology, section four gives a description and analysis of the case, section five is a discussion of the paper's contributions, and section six offers a series of conclusions.

A2. Accountability in organisations

There is a rich and diverse literature discussing accountability, and within the management literature this has two broad areas of focus: 1) the interpersonal and inter-organisational manifestations of accountability, or 2) various forms of public accountability, such as that of educationalists (eg. Kamuf, 2007; Tusting, 2012), of companies and markets (eg. Murray et al. 2006; Collinson et al., 2009), and public sector governance (eg. Gray & Jenkins, 1993; Willems & Van Dooren, 2012). For this study, where interpersonal and inter-organisational relations are of particular interest, we draw mainly on the former literature and connect this to relevant themes from the collaborations literature.

A2.1. Systems of accountability: nodes and linkages

Hopwood's (1978) call for a greater understanding of the situated practice of accounting and its role within organisations focusses on what he terms "the challenge to understand

accounting in action” (Hopwood, 1978, p. 10). One critical area for investigation is determining what is to be accounted for, how and to whom, allowing us to understand a system as it extends beyond the “mere assembly of calculative routines” (Burchell et al, 1980, p. 6) that is technical accounting. Such system-wide analysis bring together functionalist views of accounting with the interpersonal aspects of accountability and interpretive understandings of practice over time (Roberts & Scapens, 1985), taking us from the consideration of *accounting systems* to an investigation of *systems of accountability*.

However, extending the conceptualisation of accountability in this way has its challenges, as experienced by Roberts and Scapens (1985). They suggest that narrow views of accounting must be located within a broader understanding of accountability, but then invert this relationship and suggest that “accounting institutionalises the notion of accountability; it institutionalises the rights of some people to hold others to account for their actions” (1985, p. 448). In this way the social and moral forms of accountability, if they are to have any voice within institutions, appear to now need to be collapsed into economic terms. Their concluding focus on the creation or use of better accounting information ignores another possibility: to imagine accountability as an organisational force not necessarily reliant on accounting as the means of delivering institutional ethics and morality.

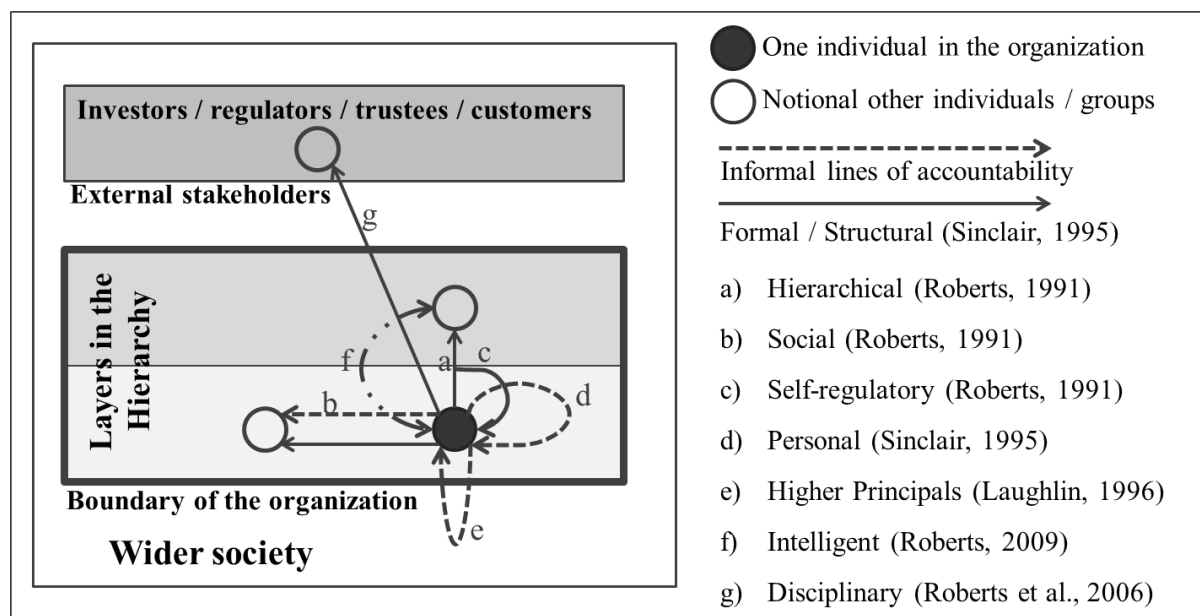
Roberts (1991) offers two versions of accountability: the *hierarchical* form that makes individuals ‘visible’ through the quantification or specification of individual outputs, and the *social* form, which exists not within formal systems but in the relations between peers working together. He later suggests that it is only through a synthesis of these two that we can create *intelligent* accountability (Roberts, 2009). Sinclair (1995) takes a different typological approach, separating the *personal* from what she calls the *structural* ways of experiencing and managing accountabilities. Rather than seeing hierarchical forms as being purely about domination and technical accounting, Sinclair presents a much richer picture of the conflicts that accountability can create. In any situation the *structural* forms represent organisational challenges to be managed and if necessary traded off against each other, while the *personal* forms prove more intimately linked to the individual, not just in their social relations but within themselves. Personal accountability “rests on the belief that ultimately accountability is driven by adherence to internalised moral and ethical values. Because it is enforced by psychological, rather than external, controls, personal accountability is regarded as particularly powerful and binding” (Sinclair, 1995, p230).

Laughlin (1996) uses the concept of *higher principals* to describe a similar phenomenon in his study of accountability within the caring professions. His notion of a higher principal encompasses any persons not necessarily present (such as the patient that a health service manager may never meet) to whom an individual feels a strong sense of accountability. These different perspectives on the nature of accountability suggest that there are powerful *internal* as well as *external* forces impacting on individual behaviours. Whilst the giving of accounts renders people more visible and subject to *external*, individualizing scrutiny that may cause greater self-regulation in anticipation of such scrutiny (Roberts, 1991), the fact that each person is visible to themselves at all times creates an *internalized*, belief-based accountability. This powerful control mechanism exists within, and impacts upon, the organisation without necessarily being evident in any formal structures or processes: instead it is deeply embedded within the individuals who make decisions.

This individualised view of accountability needs to incorporate the multiple and sometimes conflicting needs of a firm's ultimate stakeholders, as managers are "making a judgement about what and whose goods *ought* to be sought" (Schweiker, 1993, p238). Schweiker (1993) argues that managers must weigh up multiple, potentially competing demands but with an awareness that if a firm's social context is defined in purely economic terms, with shareholders as the principal stakeholders and the dominant voices in the accountability discourse, then issues of morality and social justice once again collapse into economic terms. What this connection to external stakeholders does give to managers is a form of disciplinary accountability (Roberts et al., 2006), whereby their boundary spanning role and knowledge of external expectations allows them greater influence within the firm, irrespective of hierarchical position.

We can synthesise these theoretical ideas into a single visual representation [Figure 1] of the multiple types of accountability acting on each individual in an organization. The figure follows the first element of Berry's (2005) advice in offering a holistic analytical framework for identifying the types of accountability that may be experienced at each node. We incorporate within this model a distinction between the formal accountabilities, which are part of the management and organizing of the firm, and informal accountabilities, be they internalized and personal, external and social or the combined internal-external sense of moral accountability to some non-present higher individual or principal.

Figure 1: Types of accountability experienced by individuals (nodes)



The model at Figure 1 focusses on the nodes in an accountability system, and highlights the potential for tensions to arise; for example, too much focus on social accountability could create dissent amongst more economically oriented stakeholders (Messner, 2009). We next turn our attention to the linkages, which represent the enactments of accountability between individuals, and consider both *how* and *where* such enactments occur.

Prior theory highlights three different aspects of 'How' accountability is enacted: mode, level and visibility. Firstly, the mode concerns the general category or types of information being offered in an account. Managers may choose to prioritise one mode over another, for example giving primacy to either operational or financial accountability (Ahrens, 1996), or they may blend modes if they believe this will generate the best chance of approval, for example blending strategy and accounting information (Jørgensen & Messner, 2010).

Secondly, the level concerns the extent of the accounts that are expected. This level can range from excessive demands that result in a variety of negative consequences (Messner, 2009), through to the opposite extreme where no accountability is demanded but rather it is offered as a gift (McKeirnan, 2012). Such gifts may come with intangible returns, such as the good feeling of a contribution well made, or they may act to expand and improve the cycle of economic activity (McKeirnan, 2012).

Thirdly, the visibility of accountability considers how accounts are delivered, whether through remote reporting and control-at-a-distance, or more powerful face-to-face encounters

(Sinclair, 1995; Roberts et al., 2006; McKeirnan, 2012). These may positively blend social and hierarchical types to create intelligent accountability (Roberts, 2009) but equally they might create an onerous burden on those being held to account, as these “face-to-face meetings ensure that the qualities of the message and the messengers become inextricably and consequentially entwined” (Roberts et. al. 2006, p. 286). The result of such high levels of visibility can be a heightened sense of exposure by the account giver, and an ‘ethical gap’ (Messner, 2009) between the acceptable and the actual level of accountability created.

Turning to the issue of ‘*Where*’ accountability is enacted, we need to consider this in terms of both time and space. The giving of accounts is not only a historical reporting act in a single moment of time, but can also relate to future intentions, actions or outcomes, and it is the compilation of these multiple accounts that builds a sense of the moral and ethical identity of the individual or organization (Schweiker, 1993). Furthermore, the spaces where organizing takes place cannot be regarded as static backdrops, but rather they can exert multiple forces with the ability to produce different intensities of affectiveness in people (Beyes & Steyaert, 2011). These spatially derived forces become intertwined with the social aspects of account giving (Dale, 2005), and may lead to certain space-bound dominant practices (Merrifield, 1993) that might be taken for granted by those who ‘live through’ a space (Dale & Burrell, 2008) whilst affecting others, depending upon their relationships with that space.

In conclusion, what Messner (2009) describes as normalised systems of accountability within organizations can be more explicitly understood through the use of this node-linkage framework. The combination of the types of accountability experienced at each node, along with the five elements of enactment that address both how and where accountability takes place, is what defines a normalised system at any moment in time. However, it is important to remember that this is a static representation, a snapshot in time, when in fact the challenge for managers is to balance the system as it is mutually shaped through relationships, interactions and changes over time (Sinclair, 1995; Kreiner, 1996). One very significant change that can occur is the need to add a new external link into this system, as will be the case when a new multi-organizational collaboration is embarked upon. At this point we move from the study of single organizational systems to interconnected systems, and develop a way of articulating how accountable relations are formed and enacted in such circumstances.

A2.3 Collaborations and accountability

A collaboration can be defined as “a co-operative inter-organisational relationship that is negotiated in an ongoing communicative process and that relies on neither market nor hierarchical mechanisms of control” (Lawrence, Hardy & Phillips, 2002:282; see also Heide, 1994; Lawrence, Phillips & Hardy, 1999; Phillips, Lawrence & Hardy, 2000). This definition makes a collaboration something distinct from cooperative relationships through the supply chain (Lawrence et al., 2002) but is open about the types of gains that a collaborator may seek, including not only economic interests but also the legitimising benefits that come through engagement with worthy or desirable activities that reinforce their positive role in society (Dacin, Oliver & Roy, 2007). This definition also focusses attention on the importance of communication and the role of social rather than hierarchical monitoring processes (Heide, 1994). This has immediate implications for the development of accountability within the stakeholder group in any collaboration, particularly one that is newly formed.

The connections being made between organizations when a collaboration begins is, in reality, a group of individuals coming together in some way to negotiate and agree the nature, purpose and activities that will come to define the collaborative venture. These interpersonal interactions will create a fledgling system of accountability that may become the institutionalised norm for such encounters. However, this is only the first step in the creation of a collaborative system: agreements made within the context of this particular group must be communicated to the separate organisations by those involved, acting as boundary spanners (Allen & Cohen, 1969; Tushman, 1977). As accountabilities are allocated there must be some element of trust in those taking on critical tasks. This trust takes on two forms: capability trust and goodwill trust (Nooteboom, 1996; Das & Teng, 2001), the former stemming from a belief that partners have the resources and capabilities to accomplish tasks given as part of the alliance, while the latter stems from a belief that partners will behave with integrity and in the interests of the collaborative venture, in particular relating to open commitments that are not secured through contracts (Van der Meer-Kooistra & Vosselman, 2000). Thus each partner must to some extent be focussed both internally on their own ways of managing their new accountabilities, and externally on their co-collaborators to assess the levels of both relational and performance risk, as they weigh up their levels of inter-partner goodwill and competence trust respectively.

This extension of accountability theory to consider how accountability moves across organisational boundaries is relatively understudied in the literature, although a similar concept has been exposed within single firms by Ahrens (1996). In his study he highlighted a shift from financial to operational accountability in one of two case firms, as accountability flowed from external stakeholders down to internal mid-level managers. In collaborations we can imagine that these re-interpretations and transmissions not only occur up and down the hierarchy, but also horizontally across the collaborators. The ease with which this process takes place may be influenced not only by the communicative abilities of the boundary spanner, but also by the different systems of accountability. For example, agreements made collectively might be heavily influenced by the *'How'* and *'Where'* system norms of the collaborative organizational space, but re-interpreting and transmitting those accountabilities into the separate organization that is expected to take responsibility for those actions might be challenging if they operate according to very different norms. This may also lead to organizational push-back, as boundary spanners meet resistance in their attempts to embed new accountabilities into their own system. This might, in turn, result in rounds of iterative system development as collaborators reconvene so that accountabilities can be revised and renegotiated. Thus the notion of performance trust at the organizational level might also rely on relational trust at the individual level, as partners weight up the social and communicative abilities of the other boundary spanners to successfully translate, transmit and embed commitments into their own organization. These are important aspects for investigation as we proceed with this study, in our attempts to unpick the processes of collaborative accountability system creation and use.

Since we know that any accountability systems is subject to constant flux as both organizational and contextual factors shape actions and intentions over time, it is important to investigate this process from the initial convening of organizations and their boundary spanners, through the construction of the collaborative system itself, and then follow the processes of management as the system is used through the life of a collaborative venture. The following section describes the methodological approach selected to enable such a study to take place.

A3. Methodology

This part of the thesis takes the form of a 9-month longitudinal case study, commencing within one week of the initial decision by the central organisation, The Outward Bound Trust, to undertake the event that would be called ‘The Descent of The Shard.’ The case study approach is one that has been interpreted and used in a multiplicity of ways, so in this section a detailed explanation will be given of the methodology adopted here, which is based on the Grounded Theory Method of Glaser and Strauss (1967). Much has been written about case studies, ethnographic research, and the generation of theory therefrom, so this section will draw on key sources of knowledge to build a picture of this genre of research and locate the current work within it. This section of the thesis continues as follows:

In section 3.1 the dominant approaches to theory creation from qualitative data are discussed and used to anchor the chosen approach of this study in the methodological literature; then part 3.2 describes the methods of data collection and analysis utilised, and summarises the data sources used.

A3.1 Theory Generation from Qualitative Case Studies

The analytical approach taken in this study follows the principals of grounded theory, which has at its core the notion that empirical observation should lead theoretical development, and not the other way around: “Our approach, allowing substantive concepts and hypotheses to emerge first, on their own, enables the analyst to ascertain which, if any, existing formal theory may help him generate his substantive data. He can then be more faithful to his data, rather than forcing it to fit a theory” (Glaser & Strauss, 1967, p. 25). The idea is not to be blind to existing theory, but rather to hold it in abeyance while an understanding of emic perspectives are first developed, as researchers investigate actors’ own ways of constructing meaning out of their experiences (Suddaby, 2006). This idea of gaining a deep understanding of a social situation from the perspective of its own participants has a long tradition in ethnographic research, and it is worth recapping these origins to highlight the key issues to be addressed when studying relatively underexplored phenomenon.

Malinowski (1922), from the ethnology department within the London School of Economics, advises us: “A belief, which appears crude and senseless in isolation, a practice which seems queer and “immoral,” becomes often clear and even clean if understood as a

part of a system of thought and practice. From this point of view, it is all important for the field ethnologist to try and assimilate thoroughly the ideas and ways of one single tribe and spend a good deal of time over it, rather than skim through a considerable number of tribes.” (Malinowski, 1922, p. 218) The argument presented by Malinowski is that to understand any social system it is necessary to come to it not with our own theories in exclusivity, but to be open to the identification of new ways of knowing, thinking and acting that are internally consistent within that alien system. Pike (1954) draws on this argument, and the concepts of phonetics and phonemics in linguistics, to coin the terms ‘emic’ and ‘etic’ for the description of the different internal and external perspectives on a social group or setting. These terms are now embedded in the vernacular of accounting and organisation scholars, but there are still a range of views on how precisely these emic and etic perspectives are combined and the nature of the knowledge that is created in the process.

This study adopts the abductive process for the combining of perspectives, based on a social constructivist epistemology. Abductive inquiry is an approach that connects the emic perspectives of persons native to the field of study with the etic perspectives of external observers, theorists and research practitioners (Ahrens, 2008; Ahrens & Chapman, 2006; Lukka & Modell, 2010). In accounting research in particular one recent paper on the topic suggests that successful abduction relies on a broad look at multiple aspects of both the emic and the etic, since it “relies on the skilful development of theoretical explanations with the help of everything that is known empirically and theoretically about the issue being examined” (Lukka & Modell, 2010). This interpretation suggests that in addition to the search for saturation in our data, as grounded theory suggests, abduction requires openness to a wide range of theories that might provide insights into the particular context or domain of the research.

This importance of studying a case from multiple theoretical, as well as multiple emic, perspectives is further highlighted by two influential scholars in this domain: “it is the interplay between different perspectives that helps one gain a more comprehensive understanding of organizational life, because any one theoretical perspective invariably offers only a partial account of a complex phenomenon.” (Van de Ven & Poole, 1995, pp. 510-511). In order to systematically generate such a broad yet relevant sample of both empirical and theoretical information requires multiple iterations of *inductive* analysis moving back and forth between preliminary ideas induced from initial data and theory, to further empirical observation based on theoretical, rather than random sampling and an associated search for

alternative, useful theoretical ideas to incorporate into the analytical process. It is this iterative incorporation of theory and case data, all the time guided by emerging themes, that becomes *abductive* analysis. Relating this process to the current study, in the literature review at section 2 a process of theoretical synthesis is shown which, although presented before the detailed findings from the case itself, actually proceeded alongside the emergence of new information and insights from the empirical setting.

Returning to the consideration of grounded theory, and its relevance and use in the current research, it is necessary to identify what form of this method is being used and in particular how the emic and etic perspectives will be brought together effectively. The main aspects of the grounded theory process are well documented: the enfolding of literature into the analysis to stimulate further questions, a process of theoretical sampling, continually testing and revising ideas or concepts, and seeking to create a saturation of empirical evidence to support the emerging themes (Charmaz, 2006; Corbin & Strauss, 2008; Eisenhardt, 1989; Glaser & Strauss, 1967). However, following good grounded theory process does not guarantee good research (Suddaby, 2006), a warning echoed by Elharidy, Nicholson, and Scapens (2008) specifically in relation to interpretative management accounting research based on what they term the “Straussian version” of grounded theory.

This reference to different versions acknowledges that this approach has been adapted over time by different authors based on different epistemological and processual ideals. Whilst Glaser remained committed to the view that theory was emergent, Charmaz (2006) argues for a greater consideration of the role of the researcher, and an acknowledgement that grounded theory is socially constructed. In a different vein, Strauss and Corbin (1990, 1998) developed a highly normative guide to data analysis in the 1990 and 1998 1st and 2nd editions of their methodological guide, now in its 3rd edition (Corbin & Strauss, 2008), based on a desire to offer greater assurances of theory validity. They specify a multi-stage coding process, starting with the initial open coding, often using in-vivo codes that relate directly to the data, then moving to a cross-comparison and integration of codes in what they called axial coding, in order to develop more theoretically useful concepts.

This approach is drawn on by Gioia and Chittipeddi (1991) in what has become known as the ‘Gioia method,’ which now dominates qualitative research destined for the American strategy journals. They state the importance of suspending a priori assumptions, as the researcher seeks to discover the conceptual lenses used by members of the organisation when seeing and interpreting their experiences (Gioia & Chittipeddi, 1991, p. 435). This clearly

draws on the central tenet of grounded theory, but they go on to suggest a much more binary approach to the analytical process. The suggestion is that there is a first order analysis that remains close to the themes emerging from the participants, albeit synthesised and interpreted by the researcher; Following this there is a second order analysis, which “moves to a more theoretical level, wherein the data and first-order findings are examined for underlying explanatory dimensions.”(Gioia & Chittipeddi, 1991, pp. 437-438). In this first 1991 incarnation the method employed significant amounts of description and apparent creative theorising and idea generation. However, the approach has developed to the point that a clear audit trail is often produced through multiple tables of evidence linking quotations to first order categories, second order constructs and the final conceptual model.

It is this positivistic, proof-creating intention underlying the rigidly defined processes from both Strauss and Gioia that leads to the warnings about a “recipe book” approach (Elharidy et al., 2008), which does not, in itself, guarantee good research. It seems that Corbin, as the sole editor of the 2008 3rd edition of Corbin and Strauss (2008), saw the flaws in the process she had helped to shape, such that she significantly amends her approach and dismisses the need to separate initial open coding from a second stage of axial coding, removing its separate chapter entirely, and acknowledging that “as you probably noticed from the memos in chapter 8, open coding and axial coding go hand in hand. The distinctions between the two types of coding are “artificial” and for explanatory purposes only...As analysts work with the data, their minds automatically make connections because, after all, the connections come from the data.” (Corbin & Strauss, 2008, p. 198). What this indicates is a return by Corbin to a more creative and less formulaic process that utilises the thoughtful construction of memos, as also described by Charmaz (2006), to analyse data from the moment it is first collected until concept saturation is achieved and a rich theory is constructed.

A3.2 Data Collection and Analysis

The collection of data for this case study was able to begin at a very early stage, and proceed with a high level of access to stakeholders and their perspectives, as a result of the long-held industry connection between the author and the central organisation. This allowed the researcher to be positioned as a “comrade” or socially trusted outsider (Jönsson & Lukka, 2007) to this organisation. Then, through the interventions of the CEO on behalf of the researcher, this relationship was extended outwards to other collaborators, thereby gaining

access to a significant body of rich data. This closeness and the trust that came with it allowed deep insights and understanding of individual practices and accountabilities (Garfinkel, 1967) to be exposed.

The research commenced within one week of the first meeting at which this project was discussed in December 2011, and continued to November 2012. Throughout this time regular weekly contact was made with the Head of Marketing in the leading organisation in the project. This ongoing relationship, combined with regular email exchanges with the CEO, ensured that a longitudinal perspective could be developed and specific interviewees could also be contacted at appropriate times. All interviews were semi-structured to allow for the exploration of emergent themes. Interviews were recorded and transcribed for analysis, with the exception of the first introductory interview with the CEO which was recorded in note form and written up afterwards. A schedule of interviews is shown at table 1. Project documents and related emails were also made available, as shown in table 2.

Table 1: Schedule of Interviews

Person / role	Organisation (‘TOBT’ is The Outward Bound Trust)	Number of Interviews
CEO	TOBT	5
Finance Director	TOBT	3
Fundraising Director	TOBT	1
Project Manager	Contracted to TOBT	2
Events Manager	TOBT	1
PR Agent	Contracted to TOBT	1
HRH’s Private Secretary	Buckingham Palace	1
Deputy-Chairman	Trustee of TOBT	1
Head of PR	Royal Navy / Marines	1
CEO	Commando Spirit	1
Mountaineer	Trustee of TOBT	3
High Ropes Expert	Contracted to Mountain Guide	1

Table 2: Additional Documents and Data Analysed

Email correspondence between the CEO of TOBT and other stakeholders during the establishment of the project, and at other times throughout the process.
Initial risk management report prepared by the Mountain Guide for the Shard's owners in Qatar to consider at their board meeting.
Detailed operating plan for The Descent of the Shard, prepared by the High Ropes Expert.
Media pack prepared by press agency with copies of all media coverage in the UK.
Selected website press coverage from around the world, including regional and national online newspapers in the UK.

As the project approached its operational day the researcher joined the mountaineering team when they arrived into London, from their base in Scotland, and attended meetings as an observer throughout that day. Details of the proceedings of these meetings were taken in note form during the actual meetings, and audio notes were dictated immediately afterwards in private, to ensure minimal loss of information and insight.

The presentation of the empirical findings and analysis utilises Temporal Bracketing (Langley, 1999). This sense-making approach allows for the decomposition of a mass of data into successive periods, providing a structured way of handling eclectic information from dynamic, non-linear settings (Langley, 1999). The approach has been illustrated in cases with similarities to this, such as the evolution of co-operation in strategic alliances (Doz, 1996) and changing performance management practices (Yang & Modell, 2012). Within the temporal brackets we pay particular attention to certain 'critical incidents' (Flanagan, 1954). Such incidents "are not necessarily dramatic events, and may occur in the routine of everyday managerial practice. What makes them critical is that they are indicative of significant underlying trends, motives or structures" (Gray, 2007, p. 509). Whilst the term 'critical incident' is particularly linked to a data collection and analysis technique derived from the field of psychology, it has also been used or recommended in the study of management accounting (eg. Berry & Otley, 2004; Poon, Pike, & Tjosvold, 2001). This focus on specific, important events allows rich descriptions and theoretical developments to be derived directly from the incident data.

A4. The Descent of The Shard

A4, Period 1: Ideation

The Outward Bound Trust ('TOBT') is a UK-based charity providing adventurous, outdoor learning activities for young people from five outdoor education centres in mountainous areas of the UK. As with all UK charities the overall responsibility for the fulfilment of its charitable objectives falls on the board of trustees, who by law must be volunteers and cannot be remunerated other than in exceptional circumstances. The trustees employ a professional management team with a CEO, a board of Directors and a structure not dissimilar to a commercial organisation. Trustees provide strategic input and non-executive management oversight as they support the CEO and help him meet the overall objectives of the charity. The Chairman of the board of trustees is HRH Prince Andrew The Duke of York ('HRH'), who is patron of over 160 charities but only takes an active role on the board at TOBT, which was one of the first charity patronages handed down to him by his father, The Duke of Edinburgh.

The relationships between the chair, the trustees and the CEO were good and the CEO in particular had, over his seven year tenure, secured the respect and trust of those he worked with and reported to. The provision of accounts to the trustees is similar to the 'intelligent accountability' described by Roberts (2009), with regular and respectful information exchanges that combined technical accounting information with face-to-face discussions relating to various operation and strategic issues. This extends to the relationship between the trustee board and HRH as its chair, who takes a supportive rather than a hierarchical role.

The regularity of contact between this group, combined with the fact that they mainly already had high offices in various organizations, meant that the powerful spatial influences of trustee meetings at Buckingham Palace ('the Palace') had limited effect on them.

"It doesn't make any difference to the way the Trust operates, we had meetings in and out of Buckingham Palace and I see no real kind of difference there... People tend to find it very exciting and very nice to come into the Palace for the first time, I see it a lot, but the second time you know that's done actually therefore the meeting, you're not, you know, going there to see if they've got a corgi anymore." (Deputy-Chair, TOBT Board of Trustees).

The powerful social and ceremonial position of HRH, combined with his position as chair, meant that if he made suggestions they were always to be taken seriously, however unusual or apparently challenging they might at first appear. This was in part because it was

acknowledged that, in fact, he had a significant global networks and influence that he could bring to bear on any situation if he so wished. One such idea was for The Descent of The Shard ('the project'), which HRH's presented out of the blue during discussions about a fundraising event at one such trustee meeting. This was the sort of suggestion that only someone in his position might be able to make in all seriousness, simply because the iconic nature of the building made it a magnet for such requests already.

"They have been bombarded since they started building it with requests to run up it, abseil off it, jump of it and so on and so forth. And they turned them all down flat. It was only because the Duke of York unlocked the key that we got the permission." (CEO, TOBT).

At this stage the project looked as if it would not be a collaborative venture, but rather that TOBT would operate comfortably within its own system of intelligent, highly relational accountability. They did, however, need access to one specific resource – the building – and for this they would need to rely on the powerful sense of personal accountability to HRH from the CEO of the Sellar Property Group ('SPG'), Irvine Sellar ('Sellar'). This sense of obligation on the part of Sellar was created some years previously when HRH brokered the relationship between SPG and a consortium of Qatari investors, led by the Qatar Investment Authority, to provide essential finance for the completion of The Shard. The Qatari consortium acquired an 80% stake in the London Bridge Quarter development project of which The Shard was the flagship new building, leaving 20% owned by SPG, which was owned and controlled by Sellar himself.

At this stage, then, the board of trustees of TOBT expected to have to offer some proof of their ability to operate safely on this precious building to both SPG and the Qataris, but they were not expecting to have any additional stakeholders join them.

A4, Period 2: Extension

"So we know the project and know the characters so in a sense I know Irvine well enough to say, you know, both me and the Duke as it were, to ring up and say 'would you like to come in for a cup of tea' and not really needing to have an agenda because that was something they do quite regularly anyway. So if you like that was, that was the start of it." (HRH's Private Secretary)

Inviting Sellar in to discuss this charitable venture became a significant first step in convening a much wider group of individuals and organizations for the project. The latent sense of personal accountability felt by Sellar towards HRH was sufficient to engage him in

discussions about an event that, under any other circumstances, would almost certainly have been dismissed instantly. It was at this meeting that HRH first presented his idea to include the Royal Marines as both a part of the event management and as beneficiaries of funds raised. We do not know his reasoning, although he was a member of the Royal Navy and underwent Royal Marines training during his years in service. What we do know is that the Royal family tends to prefer to support multiple charities with high profile events, and it definitely helped him to garner the support of Sellar, whose commitment to the project was vital. He agreed to allow the abseil to take place, but subject to London Bridge Quarter board approval at their next meeting in Qatar, for which TOBT had to prepare a detailed project plan and risk assessment.

The decision to introduce the Marines would require a much more involved collaboration than TOBT was used to, spanning the operations of the abseil event, decisions over participants, and negotiations over cost and income allocations. The level of relational complexity was increased by the fact that TOBT would not be dealing with one Marines entity but three: 1) the operational group of employed Royal Marines servicemen who would be involved in the actual activity, 2) the Royal Marines Charitable Trust ('RMCT') which was run by a single retired Marines officer and not operated from within the Marines itself, and 3) a private fundraising events company operating under the name of 'Commando Spirit', which was employed by RMCT to run their fundraising events, and was paid a 20% commission on monies raised.

Following these actions HRH called a meeting at the Palace for all of the major stakeholders, including representatives from TOBT, the different elements of the Marines, and Caroline Sellar (Irvine's daughter) and the head of marketing from SPG. At this stage no contracts existed and no agreements were in place about the details of how the project might work in practice, or even if it would work, so this would be the first time all parties would be together and able to agree who would be responsible for what, when, and how.

The Palace provided both a magnet for the convening of these disparate stakeholder groups, and a long-established ceremonial force that affects behaviours in such meetings. For those who viewed this as a familiar setting for meetings the behavioural impact of the space itself was less significant, but for others it could have a significant impact.

"It does make people behave in a certain way that is perhaps different to than if they were meeting in Starbucks...If you're dealing with people who aren't prepared to say what

they think then you're probably dealing with the wrong people." (HRH's private secretary, describing the general effect of Palace meetings.)

"It suppresses people's normal kind of behaviour; people will not be as forthright or as opinionated, they'll manage themselves more carefully. I think things remain beneath the surface that will probably need to be resolved by some other means if they're not resolved there." (A Director of TOBT.)

It was in the first negotiations held in the Palace over control of the abseil that different levels of trust in the Marines became central to the issue of how much accountability they could, or should, take on board. The assessment made by TOBT's head of risk management was that, notwithstanding the Marines' excellent operational reputation and their clear determination to be of service, their ability to deliver such an event was in question. We focus on this in our first critical incident analysis.

Critical Incident 1 – Excessive Gifts and Potential Future Gaps

Two important decisions taken at the first group meeting related to 1) the control of the abseil itself, and 2) the training of participants, who would be inexperienced civilians. It had initially been assumed by TOBT that their head of risk management, an internationally renowned mountaineer and mountain leadership educator ('the Mountaineer'), would take charge of everything, having already prepared the risk assessment for the 80% Qatari-owned London Bridge Quarter (the owners of the building). However, the Marines were also respected experts whose involvement was becoming a priority not only in the event itself but also in the run-up, with HRH keen to do his abseil training with them rather than TOBT staff. At this first Palace meeting the issue of which organization should lead the overall event, and how they should work together, became a subject of discussion and negotiation.

The Mountaineer and his High Ropes Expert advisor, brought in specifically because of his ability to devise new operating systems for such highly unusual challenges, knew that the expertise of the Marines lay in their ability to work together at speed and under pressure using standard equipment. They did not, however, have expertise in either designing complex activities or training and managing novice civilians. The risk assessment indicated that the use of normal abseil equipment was not possible –the length of rope required for such a long descent would be too heavy to handle once on the face of the building, and could snap under its own weight. Furthermore, novice abseilers might move quickly or not pause often enough on the descent, generating heat through friction that could burn through the rope. The

Mountaineer feared that under those particular circumstances - being an officer in the Royal Marines, in the Palace, at the request of HRH – there was no way that the Marines would decline to take control if they were asked. And yet he feared that if they did so, then these challenges might remain unresolved and ultimately lead to the conclusion that the event was impossible.

“Yeah and you know it’s not a criticism of them because this is out of grade working for them it’s not what they do. You know this is a very complicated situation using, you know, adapting equipment in a non-standard way.” (Mountaineer).

The negotiating position taken by the Mountaineer was uncompromising in his determination to be absolutely accountable for the abseil. As one attendee put it:

“If you didn’t know who was who at that meeting you’d have thought [the Mountaineer] was the one from the Marines” (TOBT Director).

It was agreed that the control of the event should stay with the Mountaineer, but the Marines would provide the training sessions pre-event based on a programme to be devised by the Mountaineer and using the new equipment that the High Ropes Expert he had employed would be developing.

Through this process of identifying the potential for an excessive gift of accountability to be made under powerful social and spatial influences, the Mountaineer was addressing a perceived trust risk that could undermine the entire project. His expectation was that this ‘gift’ of willingness to take responsibility for the abseil would turn into an accountability ‘gap’ when they were unable to complete on their offer, not through any lack of willing but rather because the Marines would then be expected to deliver a highly technical project that, ultimately, they lacked the experience and expertise to complete.

A4, Period 3: Transmission and Systematisation

Following the meeting at the Palace the various agreements made needed to be both transmitted to the different organizations and incorporated into their individual operating plans, and managed through their existing control systems. For TOBT the transmission of agreements into their own systems of accountability was a relatively straightforward process. They had involvement and input into every aspect of the project and the individuals involved were the CEO and trustees, so there was no question of competing accountabilities interfering with decisions they had taken or commitments they made.

For SPG the fact that the CEO, Irvine Sellar, did not attend this or any other group meetings meant that there was a higher authority that needed to approve any ‘agreements’ made at the meetings by his daughter, Caroline, and his head of marketing. SPG had building contractors and suppliers who would all be affected by an event taking place on what was, at that point in time, a building site so agreements frequently needed input from a wider stakeholder group. Also, their benefits from this project would come from PR opportunities, but only if the event went off successfully. If not, they were exposing themselves and their building to high levels of physical and reputational risk.

“You know how public perception can be very easily persuaded and how predatory at times the media can be, particularly the printed, I mean the press can be. If something goes wrong and the press get an opportunity to knock someone off their pedestal they will. So they have that risk.” (PR Officer, Royal Marines).

What happened inside Sellar’s offices was something of a black box to the other collaborators. Clearly the complex web of relationships with investors, construction firms, suppliers and other stakeholders meant that each decision needed to be carefully reviewed. For example, the primary stakeholders were Qatari investors:

“The Middle East has a culture of giving for charity without demanding anything in return in terms of, you know, a physical challenge and therefore I think genuinely speaking that the Qatari’s were perplexed as to what we were doing.” (TOBT Trustee).

The impact of this on the agreement process was that there needed to be an extended period of iterative discussion required, as SPG representatives made tentative commitments at Palace meetings, but then had to alter them afterwards by email or at future meetings.

“one of the big cultural clashes of the, in the planning of the thing is that we have these stakeholder meetings and we turned up kind of empowered to make decisions with Sellar Property in particular. You’d have this meeting, you’d agree something and then they’d go back and it would be overturned.” (CEO TOBT).

However, despite the frustration that this caused at times, it was well understood that SPG and Sellar himself had a very difficult balancing act to maintain, and that their provision of the Shard was being done without contract and at significant personal and organizational risk. It was therefore accepted that the to-and-fro of collaborative negotiation was necessary and that the Palace meetings were an essential forum for keeping agreements on track.

For the Marines the challenge was to ensure that any agreements reached at the meeting were acted upon by the multiple different entities involved. This posed a particular problem

because those at the meeting did not always have clear hierarchical authority over those who had to take action, and in an organisation that is used to working with direct lines of authority this went against institutionalised norms of command and control.

In relation to event operations, those Marines responsible for supporting the main abseil had a clear understanding of their responsibilities. However, a different group of Marine Mountain Leaders were to be involved in the training events, first working with the Mountaineer to learn the system, then running all future training sessions. Some breakdown in communications or re-interpretations occurred, though, as only three, rather than the expected eleven, Marines attended the first session to the surprise of the Mountaineer. To ensure that everyone was trained, he and his team returned to London from Scotland to run all of the subsequent events, but never identified the communication issues or operational priorities within the Marines that had prevented the original plan from being implemented.

In relation to fundraising, the single individual running the RMCT, a retired Marine himself, entrusted most negotiations to the CEO of Commando Spirit. She in turn had a more commercial and contractual approach to event management than the CEO of TOBT, who was far more prepared to work on trust and in the absence of contracts. This approach was embedded right through TOBT, with fundraising trustees understanding the comparative strength of personal accountabilities over contractual ones in such situations:

“With my commercial partners I wouldn’t have hesitated to put a piece of paper under their nose and make them sign it. But the word of the Trustees was deemed to be enough, and indeed it was I don’t think I could have felt more accountable for my £100,000 than if I was under a contract; even if I was under a contract I would have not have felt more accountable, in fact probably less.” (TOBT Trustee)

This institutionalised approach to accountability was perhaps more easily adopted by the CEO since he was confident of a net income of at least £1m from this project. However, this did not in any way ease the concerns of Commando Spirit, who were a much younger and smaller operation:

“We’re in a very different situation, you know a very different charity The Outward Bound Trust, I mean they’re a mature organisation, they’re an international organisation, they have heavy hitting Trustees and the Trustees who already, have already bought into this... We launched in October 2010.” (CEO, Commando Spirit).

They wanted to be sure that their share of costs were a) agreed in advance, and b) kept under control and they attempted without success to have more robust inter-stakeholder

contracts put in place. Ultimately the CEO of TOBT made his agreements in relation to how the abseil numbers were allocated and how costs were shared with the retired Marine in charge of RMCT, in person and on a handshake, going over the head of Commando Spirit and preventing any further discussion about contracts.

The negotiated and non-formal nature of agreements for the project meant that when a major shock occurred to any one part of the system it required considerable effort by some stakeholders to manage the associated accountabilities and reinstate operational stability. Even then, repercussions were felt across every organization. One such shock is analysed in our second critical incident.

Critical Incident 2 – Active Collaborative Accountability Management

Some three months into the collaboration, when everything was seemingly agreed and a stable system of accountabilities had been co-created, a video appeared in the news media and spread rapidly. The video showed a base-jumper completing four separate jumps from The Shard, each in the night, and each after breaching security, climbing the tower, and jumping off without being noticed. The email response from Sellar to all stakeholders was immediate: they stated that they must postpone their decision about whether or not the event could proceed or not (a decision that all other partners thought had already been taken), postpone the next meeting of the partners, wait for a decision from the board in Qatar as to what could or could not happen, and they would seek to carefully manage all publicity from here on. Sellar had gifted the use of their building and had every right, in the fact of a perceived risk that their building would become a magnet for every adrenaline junkie and their dangerous stunts, to retract or amend that offer under such challenging circumstances. This ability to close down a collaborative venture highlights the risk of relying on gifted accountability, as well as the vulnerability of partners when there is no protection through hierarchical accountability that can keep their co-collaborators in check.

In a well-crafted email to Sellar and the Palace, the CEO of TOBT reconstructed the accountability relations in such a way as to persuade Sellar to reconsider. His argument progressed logically, as follows: 1) any postponement would be akin to cancellation since winter weather would preclude any attempt until spring, at which time the building would be occupied, 2) just that week the trustees, including HRH, had received pledges of over £600,000 which would have to be turned down if the event was cancelled, 3) these pledges of funds would, if received, make a real impact on the lives of children in Southwark, the area

where The Shard is being built, and on the Marines who benefit from the RMCT. He concluded the email with this:

“Ideally, I think we should continue with the April 24th meeting. Whether the abseil happens as planned or gets put back, there is still quite a bit to discuss - and much of it best done face to face” (CEO of TOBT).

This email aimed to increase accountability towards the project from Sellar, and Irvine in particular. The use of quantification was unusual for this CEO, but by specifying an amount pledged to date he moved from a moral imperative to give this opportunity to a charity, to a monetized level of accountability. The email then linked this quantified potential loss to areas where Irvine felt personal accountability: to the Marines charity and the children of the Borough of Southwark (where The Shard was located) who would attend TOBT courses paid for from the proceeds of the event, and to HRH in person who had invested time and effort into the project and was to participate himself.

The CEO then ensured that if a decision to cancel was to be taken it would not happen through email channels but in a face-to-face meeting. This created personal visibility and, by calling to reinstate this meeting at the Palace in particular, the CEO was ensuring that this testimony was given in significant space with its own powerful place-bound dominant practices. Here, he believed, a balanced discussion of the issues could take place away from the knee-jerk instant reactions by email; discussion which, in the eyes of the CEO, could only lead to the project continuing. Thus the CEO brought together a range of accountability tools in order to ensure that the meeting, and then the project, did go ahead: he linked powerful personal accountabilities to financial accountabilities through the quantifications of loss, highlighted the temporal factors that would turn ‘delay’ into ‘cancellation’, and encouraged a critical reconvening of stakeholders at a time and space that would allow the system to be restabilized before the entire collaboration began to unravel.

Under these new, tense circumstances surrounding the public attention being drawn to The Shard, Sellar now insisted that no publicity would be allowed until after their official opening of the building in July. This decision had ramifications elsewhere in the collaborative accountabilities:

“There was huge nervousness on the part of both the Qatari’s and Irvine Sellar as to whether this was a good thing to do. There was a big wobble over whether we would have copycat incidents following this and whether it was right to set this up in advance as a

challenge. And that affected everything, it pushed all the fundraising back because we didn't have final permission to say that we could do it, it pushed all of the safety work back which meant that there were real questions over whether we could physically do it." (Deputy-Chair, TOBT Board of Trustees).

As Commando Spirit were far more reliant on publicity to achieve their fundraising targets, the inability to promote the event until such a late stage made them even more concerned about cost management, and they increased their pressure on TOBT to clarify and specify everything that might affect them. Tensions in one part of the accountability system were pulling across the many threads that bound the different organisations.

A4, Period 4: Relocation and Execution

"I think there's a sense in which people are lining up better as we come into the event than has been the case previously." (TOBT Director).

In the final four weeks running up to the abseil a shift in focus gradually occurred across the project group. This in turn meant that the Mountaineer, who would be in overall control of the event, and Sellar, who was in overall control of the building, became increasingly important figures in the project organisation. The relationship with Sellar was one that TOBT believed needed careful attention to retain their support, in particular after the base-jumping incident and other potential issues such as one concern that stretched for several weeks over the need to remove certain panes of glass for the event. The Mountaineer's team increased their engagement with staff from SPG and the building contractors on the ground at The Shard. With this change of spatial focus from meetings at the Palace with all stakeholders, to meetings at the Shard to discuss the specifics of the abseil itself, a change was perceived in the way Irvine engaged with the project:

"Well I think to begin with he was quite happy for it to happen, I think he was supportive of the thing. I just think he got more and more angsty the closer it got to the occasion... I think he thought, in fairness I just think he thought you know this was an incredibly dangerous undertaking and it would kind of wreck The Shard, his life's work" (CEO of TOBT).

This culminated in Sellar demanding to speak with the Mountaineer to try and establish much clearer accountabilities than the informal, socially negotiated ones already in existence. This meeting, from the perspective of the Mountaineer, is analysed in our third critical incident.

Critical Incident 3 – Relocation and Excessive Accountability

At five days to go, the Mountaineer had an urgent call to visit Sellar at his office. This meeting was attended by a third person, introduced by Sellar as his security representative, who he said had previously been employed by Mossad, the Israeli Institute for Intelligence and Special Operations.

“So he called me to account for the plan and for the project. And I said well I can only do what I can do but it’s not my project, it wasn’t my idea, ‘You’re Responsible’ he says...Everybody wants at that stage to have somebody who is responsible for everything. And as far as lot of people were concerned that was me.” (Mountaineer).

Irvine stated (with no room for discussion) that this security representative, who became informally known as ‘Mossad Man’, would accompany the Mountaineer and his team everywhere, from that moment onwards, until the event was completed. If at any time Mossad Man was unhappy with anything he would call Sellar, who would call the whole thing off.

The Mountaineer was not being asked to perform any different acts, yet the accountability had changed in two significant ways: he would now be subjected to continuous visibility, and he was being told that whatever contractual relationship he may have held with TOBT, Sellar would hold him to account for the entire event. This demand for visibility and accountability required significant concessions on the part of the Mountaineer, who was being expected to provide a heightened level of accountability, for no additional reward, to fill this major gap between Sellar’s expectations and the level of accountability already in force. It appeared that the informal, non-contractual, highly relational accountability system that had been created was never comfortably embedded into SPG and now Sellar needed some sense of additional, hierarchical and direct control. If the Mountaineer did not accept the terms the project would collapse because of this unfilled accountability gap. So Mossad Man left the meeting with him, right there and then; he moved into the hotel where he and his team of four were staying, dining with them in the evenings and shadowing them daily until the event was over.

The Descent of The Shard abseil took place on Monday 3rd September 2012 with HRH going first at 7am, in front of live television cameras both on the roof and in two news helicopters. The process of multiple checks on abseilers and their equipment was critical to

the safe functioning of the event - one loose item could drop and kill someone in London Bridge station below. This was where the accountability fell heavily on the Mountaineer's shoulders yet could not be shared fully with participants:

“So, you know, part of it was that they had to feel that the plan was invincible that it was completely safe, that it was all a jolly jape, but at the same time they had to know that it was a potentially risky thing to do that we had under control. But that control only goes so far you know.”(Mountaineer).

Fortunately for all involved it did go ahead, although the wind increased that evening and as a result the contractors on site at The Shard had to wait five days to replace the windows that had been taken out for the abseil. If the event had been planned for any of those days it would have been cancelled at a loss of some £200,000 to TOBT. This was the risk that had been understood and accepted by the CEO of TOBT from the outset.

In June 2013 The Descent of the Shard won the best fundraising event of 2012 from the Institute of Fundraising at their prestigious annual awards. A total of £2.5m was raised for the two charities on that one day, yielding a net income of £2.3m after all costs.

A5. Discussion

Drawing together the preliminary analyses from within the four temporal brackets and three critical incidents, we develop a process model of how a collaborative system of accountability comes into being, is developed, and is used to guide a project to completion. Our model divides this process into three significant phases:

Convening – the use of latent accountabilities to bring together a group of disconnected or informally connected individuals and organisations to allow discussions about collaborative activities to proceed.

Constructing – the negotiated, iterative process of creating a collaborative system of accountability that spans the multiple stakeholders and provides a degree of control over their activities such that some common purpose can be identified, agreed and worked towards.

Managing – the ongoing management of this system of accountability through time, as the collaboration moves from ideation through to execution.

In the following three sections we explain in more detail how these three activities take place and the accountabilities that are involved.

A5.1 Convening

Since collaborations are by definition a socially negotiated, rather than hierarchically created, phenomenon that span multiple organizations (Lawrence, Hardy & Phillips, 2002) their creation must rely on some other forces to bring the different parties together in the first instance. Using accountability theory as the lens through which this process is understood we identify two principal types as being implicated in this phase: social accountability (Roberts, 1991) and higher principals accountability (Laughlin, 1996). However, whereas previous studies have focussed on these accountabilities ‘in action’ in organisational settings we see the process of convening as being the awakening of what we term *latent accountabilities*. In social form this may be the implicit or explicit reminder of past favours now being called in through a request for assistance or the provision of some key asset (such as a very tall building for an abseil), whilst in higher principal form it may be the call to action that reminds people of the specific aims of a charitable event and the needy individuals who would benefit. We say these accountabilities are latent because, until this call was made, the individuals or organizations concerned were happily continuing with their existence having little regard for the social expectations that were about to be placed upon them.

The latent accountabilities that are awakened as part of the convening process need not be sufficiently powerful bonds to allow the entire collaboration to proceed, but merely sufficient to move it to the next stage of its development: constructing. The convening process can, however, be more or less useful to the constructing phase when consideration is given to the spatial dimension of accountability system formation. Space is not neutral in respect of accountability: the choice of convening location can allow space-bound dominant practices (Dale, 2005; Merrifield, 1993) and in particular certain dominant organisational logics of control and authority (Spicer, 2006) to be particularly influential in guiding the early stages of systematisation. If such dominant practices are associated with one particular organisation within the collaboration, with its own institutionalised system norms (Messner, 2009), this

allows them to promote ways of accounting, in terms of the mode, visibility, time and space, which more closely match their own expectations. So it is that through the management of the convening process certain stakeholders can, either deliberately or inadvertently, direct the initial course of the constructing phase of the process.

A5.2 Constructing

In order for a collaborative project to move from ideation to completion there is a need for some apportionment of responsibilities and a framework within which progress through, or completion of, different activities can be reported back to others. The construction of this co-ordinating system of accountability, where accounts of acts, intentions or omissions are offered and received at certain accountable moments, must be founded on some level of interpersonal and inter-organizational trust and confidence. This trust must be sufficient for the separate parties to continue to work towards established goals in the knowledge that, in between these collective accountable moments, their collaborators will continue to play their own parts as agreed.

A5.2.1 Constructing: The Process

In this multi-organizational setting the lack of a single hierarchy can be seen as both liberating, in that parties are free to make their own offers of accountability during this constructing phase, but also potentially destabilising due to the lack of a single protective higher authority (Roberts, 1991) that can temper inappropriate demands and resolve conflicts. The collaborators must now use more negotiated, face-to-face social approaches to construct the complex web of responsibilities for different tasks that binds the network together. Each line in this web must be mutually agreed, based on a willingness of a certain party to act but also trust from others that they have both the capability and intention of doing so. Even when such agreements are reached in the moment of face-to-face negotiations, the individuals present must then transmit the (provisional) agreements back to their separate organizations and embed them in their own institutionalised system of accountability. The trust that allows the collective to apportion responsibilities is thus based not only on their assessment of the individual to take on such future accountabilities, but also on an appraisal of their boundary

spanning effectiveness – their ability to ensure that their organization will fully adopt the accountabilities that they have personally committed to.

The collaborative system of accountability that is constructed in this way is therefore not complete until all agreements made have subsequently been agreed by the separate organisations. These extensions of each line of accountability, through the negotiators and out into the separate organisations, is a central aspect of such systems and is what makes them fundamentally unstable and prone to ongoing, iterative development. These boundary spanning individuals must not only transmit these new accountabilities but also re-interpret them to ensure that they are understood and acted upon by their own organisation. Our analysis suggests that a number of factors may play important roles in determining the duration or ultimate success of this iterative negotiation / re-interpretation process:

- a) *The alignment between the nature of the control systems.* Where higher order, more visionary aspects of the project are negotiated in a highly relational environment where the normalised system relies very much on non-formal lines of accountability, the act of translation and embedding into a separate more transactional system may be difficult as less value and trust is placed in such accountabilities.
- b) *The social and/or hierarchical influence of the boundary spanner.* In transmitting accountabilities horizontally across an organisation, and convincing peers to act according to the needs of the new collaboration, a level of persuasiveness and communicative skill is required commensurate with the distance the influence needs to travel. Alternatively, authority can provide the answer to this need to embed and enforce new accountabilities.
- c) *The competing accountabilities already in force.* Each separate organisation entering the collaboration already has its own normalised system of accountability in place, prior to any engagement with this project. As such, the collaborative accountabilities are not coming into an empty shell of an organization, but rather they have to merge with or somehow co-exist with an existing system. The presence of strong, inflexible existing intra- and inter- company accountabilities will mean that the extension of the system will only work if the collaboration's requirements are either well aligned with the existing system, or somehow dominant over it.

As highlighted in the fourth temporal bracket and critical incidents 2 and 3, this iterative system development can continue throughout a project, to its very last moments.

A5.2.2 Constructing: The Outcomes

Within the domain of collaborative accountability systems, where a complex web consisting of multiple lines of accountability must be negotiated, we introduce the conceptual notions of *strength* and *flexibility* as being key features of each individual line.

The strength of each line of accountability represents a belief as to how binding that agreement is, how likely the accounting party is to give a positive account of its actions, and how unwavering such actions will be in the face of challenges, conflicting accountabilities or future uncertainties. Under economic rationalities the relative *strength* of an inter-organisational accountability might be primarily linked to the business value it creates for that party, assuming that high value relationships yield extra determination to succeed in delivering positive outcomes. However, gifts of accountability that generate no obvious economic benefits can provide unusually strong bonds if they are connected to powerful personal, social and higher principal oriented forms of accountability. The value ascribed to *strength* by different parties, or external observers, therefore depends on the degree of intersubjective understanding they have developed in relation to the personal motivations and intrinsic self-evaluation processes of the other parties, as well as more clearly visible extrinsic factors such as expected financial returns.

Of equal importance is the flexibility of each line of accountability. This flexibility can be seen as an indicator of how much strain can be placed on it before it snaps, how willing at least one party might be to adapt their offering, to gift in response to accountability gaps, whether these arise through individual actions or environmental change. Critical incident 3 illustrates this point, with one party rapidly adapting their offering and accepting a significant increase in personal accountability and visibility in order to satisfy another. In fact the gift in this case is oblique in its intention, based on the higher principles of the gifter and his desire to protect the overall project from collapse should this gap remain unfulfilled.

The flexibility of any line of accountability can therefore be seen as a reactive attribute of each connection, but there are also pro-active steps that can protect the formative system as seen in critical incident 1. The identification of trust-based future gaps is an important part of

the constructing process if the outcome is to be a system that is resilient through both its established strength and its ongoing flexibility. Through a deliberate attempt to understand co-collaborators' strategic objectives, competencies, reactions to spaces, to spatial changes planned or possible, and to face-to-face accountabilities in those spaces, an individual or organisation can foresee and potentially forestall many problems that could otherwise become embedded in the system; problems that may not materialise until the project is well underway, and possibly too late for additional resources or capabilities to be allocated to fulfil the accountability gaps that might appear.

A5.3 Managing Collaborative Accountability

A contribution to our understanding of how managers, in practice, can seek to control and augment collaborative accountabilities has been an emergent feature of this case study. Through the analysis of critical incident 2 in particular we can both see and understand the effectiveness of combining five separate approaches to increasing accountability: quantification, personalization, visibility, spatiality and temporality. Using the framework shown at Table 3 we offer researchers an analytical tool to more deeply probe, and therefore more richly interpret, the activities of managers. We describe this as an abductively derived framework because it connects multiple sources of etic, theoretical knowledge relating to the attributes of, and approaches to, accountability management with more pragmatic guidance for researchers engaged in the deep probing and interpreting of rich, emic insights. This framework is useful when studying accountability management acts within any organizational context, but is especially useful in the study of accountabilities in the absence of formal structures and hierarchical controls.

Table 3: Framework for the analysis of accountability management acts

Attribute	Approach to increasing accountability	Questions to ask of case data
Quantification	Changing the mix of accounting numbers and strategic, discursive content in communications (Jørgensen & Messner, 2010) through the specific monetization of ethically valuable outcomes (Roberts & Scapens, 1985).	How are accountable demands or expectations being quantified or qualified? Does this approach change over time, either gradually or radically? What different approaches are used by different actors in their different relationships, and how

		effectively?
Personalisation	Link the newly-quantified accountabilities to existing personal accountabilities (Sinclair, 1995) that link to ‘higher principals’ (Laughlin, 1996) and the powerful intrinsic accountabilities of individuals.	What personal accountabilities exist amongst the individuals within the network? How well are they known and understood by other participants? Are they invoked specifically in accountability requests, and how successfully?
Visibility	Maximise visibility through all possible communication channels – including current emails and a push for face-to-face discussions and personal testimony (Roberts, 2006; Messner, 2009; McKernan, 2012)	Through what different forms of communication are accountabilities enacted? How are these channels changing and to what extent does this increase or decrease visibility and face-to-face accountability? Who is leading any attempts to change visibility?
Spatiality	Make deliberate use of space (Kornberger & Clegg, 2004) by moving the accountability conversation to a location with political forces (Beyes & Steyaert, 2011) and place-bound dominant practices (Merrifield, 1993) that support your cause.	Where do accountability discussions take place during the case? Are there spaces (physical or notional) that dominate the thoughts and accountabilities of some actors? What political forces or dominant practices exist in these spaces? Who experiences them and how? Is space actively managed, and how effectively?
Temporality	Restating the delay as cancellation repositions it as a more significant breach. Call for meeting to not be postponed addresses the urgent need for a restatement of lines of fidelity (Schweiker, 1993) to cement accountability to the collaboration.	How do the timings of encounters between the parties affect the build-up of accountabilities, and inter-partner trust? In what ways are temporal effects stated, restated or debated to reinforce different needs or perspectives?

These five attributes provide us with a detailed insight into both the ‘how’ and the ‘where’ of accountability enactment. By addressing the issues of the mode of accountability, the level or changing levels, and the visibility that form the ‘how’, and the specifics of temporality and spatiality that form the ‘where’ (as discussed in section 2.1) this framework offers a way of analysing and interpreting managerial action. This, in turn, helps us to understand how

commitment to a particular activity can be enhanced and a collaborative system can be actively managed. In particular this framework helps us to understand changing accountabilities in situations where the fundamental request being made of any individual, in terms of the actual actions they are being asked to perform, has not changed. These management acts can be seen as accountability positioning, following the definition of that term provided by two of its leading exponents: “*Positioning is not what you do to a product. Positioning is what you do to the mind of the prospect. That is, you position the product in the mind of the prospect*” (Ries & Trout, 2001:2). So, whilst the negotiated nature of the collaboration remains unchanged, in the face of competing accountabilities or elevated risks perceived within one organization, a collaborator still has the power to utilise these different management tools to enhance the strength of their own demands. It may be no surprise that in this particular study the person who successfully managed the attributes of accountability in critical incident 2 was a highly experienced charity CEO, used to working with donors, trustees, volunteers and staff who are heavily motivated and driven by combinations of social, personal and higher principal accountability, alongside more structural and economic controls.

A6. Conclusions

In this Part A of the thesis attention is focussed on how accountability theory offers a way of building a holistic understanding of control in time-limited multi-organisational collaborations, from the moment of ideation through to the execution of organizational objectives. The synthesis of extant literature is used to develop a rationalised node-linkage model to guide the understanding of different formal and informal types of accountability, and the different ways that these are enacted in organizations. To analyse the entirety of all the control systems encountered in this case is too much for one chapter, and is not the focus here; Instead the model is used to guide the understanding of different firm-level systems, and differences between these systems, to help us better understand the tensions that exist *between* them, and the challenges faced by boundary spanners who attempt to operate *across* them. This allows the identification of the processes of convening, constructing and managing this new system of accountability. In doing so it is possible to demonstrate how lines of accountability are iteratively created across organizational boundaries, and how the strength and flexibility of such a system stems from a dynamic mix of formal and informal

accountabilities, not simply economically oriented contracts and controls. This Part A of the thesis also offer researchers a new, abductively derived framework that offers a new level of analytical granularity when studying the attempts of individuals to manage accountable relations within an ongoing collaboration. This model draws together five specific attributes of accountability management: quantification, personalisation, visibility, spatiality and temporality, and for each of these offers specific questions that we can ask of any action to better understand how accountability is being strengthened, redirected, or otherwise influenced. Being derived from the close analysis of seven periods of activity (four temporal brackets and three critical incidents) through a temporal bracketing approach, this form of emergent conceptualization offers certain advantages: according to Langley (1999) this approach offers both a better chance of dealing with fundamental process drivers, the possibility of creating highly accurate albeit less-than-simple theories, and a moderate level of generality, until tested on more data (Langley, 1999, p. 704). This framework offers valuable guidance in its current form to researchers studying any acts of accountability management, but still needs to be further tested and refined as we increase our understanding of the many and complex ways that managers operate in unstable, non-hierarchical, negotiated settings.

Although this study is limited in scope through the focus on a single, rather unusual case, the contributions in this section offer researchers a new synthesis of existing accountability theory and a rich, empirically derived extension into the important domain of multi-organizational activity.

As well as these more general conclusions, it is also important to consider the specific points being developed here that can usefully be carried forward to the next case study, in Part B. Taking each of the outputs in turn, it is possible to apply them in a number of important ways:

The accountability model built from the literature is a useful tool for extracting meaning from interview-based data relating to the setting up and managing of the case study organisation. Since it is a joint venture, constructed by multiple parties and serving multiple purposes, it is possible to use these ideas from accountability theory to identify alignments, tensions and their underlying causes as the vision, mission and initial objectives of the organisation are explored;

Since the joint venture organisation in Part B also has a mandate to facilitate other activities that link organisations together, it is likely that we will see many different acts of accountability management taking place. The framework developed here that identifies different aspects of these acts can act as an analytical tool when coding interview data. This approach can help to ensure that acts which, on the surface, may appear to be part of the day-to-day management activities, are actually exposed and understood as relational control activities that may well be essential elements of an informal control system.

Part B: Ecosystem Performance Management

B1. Introduction

The first part of this thesis focussed on accountability in a single incidence of multi-organisational activity, where one group came together for one specific project. This collaboration had a fairly clear purpose, with a defined timeline and set of activities that needed to take place in order to succeed in its goals. From the study of this more simple organisational form it was possible to develop a greater understanding of how accountability systems are formed and managed, combining elements of formal and informal systems, and multiple ways of enacting accountability. In this second part of the thesis attention is turned to more complex forms of collaboration in order to extend these ideas and link them to established performance management theories.

Part B presents a case study of performance management within an innovation ecosystem in the field of biotechnology and drug discovery. In this case a strategic alliance between a UK FTSE100 company and two other stakeholders has been formed to create a joint venture organization ('JVO'). This JVO, a bioscience incubator and networking organisation ('SBC'), is located on the site of one of the partners yet has a separate management team, modes of operation and overall objectives from this and its other parents. The route to success for this JVO is embedded in a business model that focusses not on the profitability of the JVO itself, but on its ability to act as a form of 'network incubator' (Hansen, Chesbrough, Nohria, & Sull, 2000), catalysing innovation and collaboration within a growing ecosystem of tenant firms and related support organisations and service providers. The successful development of this ecosystem is seen by the funding stakeholders as a significant factor contributing to their own long term goals, which are varied in nature but aligned in terms of their desire to see more scientific ideas leaving universities and other organisations, to be developed within an incubator, and provide new potential partners or acquisitions for established pharmaceutical companies at the same time as generating employment and inward investment into the UK.

The research aims to explore the relationships between performance management systems and various contextual factors: the ecosystem aspirations, innovation oriented goals and associated business model of the JVO, as well as the complex web of stakeholders and associated accountabilities that must be satisfied by such a system. This requires a

consideration of performance on multiple levels, including the tenants, the JVO itself, and the separate funder organisations, all of whom have the ability to influence the way performance is understood and managed within the JVO itself. This can be framed as a single research question, as follows:

This study addresses the following research question:

How is performance understood and managed within a network incubator JVO?

By selecting this research site it is possible to extend the notions of accountability system development offered in Part A into a domain where the central, convening organisation – the JVO - takes on a more formal existence than a mere group of stakeholders, bringing together multiple parties to form multiple collaborations at multiple points in time. In this case the JVO itself, and the multiple parties it brings together, will be subject to different performance expectations from multiple stakeholders, based on very different timescales and outcomes; Furthermore, the measure of success of the JVO itself is based not only on its own financial performance, but on the financial, scientific and social performance of the innovation ecosystem it exists to support.

Studies of performance management in innovation have been the subject of concern in both the innovation and the accounting literature. From the innovation research perspective, the extensive review article by Keupp, Palmié, and Gassmann (2012) warns that despite much research attention being paid to different forms of collaboration, scant attention has been focussed on the performance of such collaborations. They argue that theory in this area needs to address “the mechanisms that induce positive outcomes from innovation-related collaborations” (Keupp et al., 2012, p. 376), or in other words, the management control systems for collaborative innovation. Furthermore, the calls for greater attention to be paid to performance management is a consistent theme in open innovation reviews (eg. Gassmann, Enkel, & Chesbrough, 2010; Lichtenthaler, 2011). The challenge of understanding performance management when multiple firms are co-innovating is compounded by the multiple levels of performance analysis required when trying to address network incubators.

It is essential to understand the incubator’s multiple objectives, the nature of performance in their particular context, and how this links to governance and incentives (Phan, Siegel, & Wright, 2005). This suggests that when addressing these cases it is important to take account of the incubator users, key service providers, parent-funders and

other stakeholders' expectations and roles in supporting the ecosystem. Through these multiple subjective and intersubjective perspectives it may be possible to derive useful advances in our understanding of performance management in such JVOs and the systems within which they are embedded.

Since this particular form of ecosystem performance management and control is a relatively understudied phenomenon, the research approach used here will be based on the grounded theory method (Charmaz, 2006; Corbin & Strauss, 2008; Glaser & Strauss, 1967). Central to this method of developing theoretical understandings from empirical data is a belief that existing theory must be gradually blended into, rather than used to deliberately guide, the investigation of the unfolding case. Since the intention here is to develop understandings that stem from new, open innovation type business models, linked to a broad array of likely accountabilities at the firm and network level, the literature drawn into the analysis will originate from the business models and accountability domains as much as from prior studies of performance management. By utilising these research domains collectively the aim is to build theoretical ideas about ecosystemic control systems that can relate to, but not be dominated by, existing management control system theories.

This part of the thesis continues as follows: section 2 is a literature review that draws together threads of theory from the three domains of performance management, accountability and business models, in so far as they are relevant to the aims of this study and the development of an ecosystemic perspective on performance; section 3 presents the research methodology; section 4 presents the findings from the case study along with a first order analysis; section 5 is a discussion and greater theoretical exploration of these findings, then this Part B ends with a conclusions section at 6, which looks at how the research question has been addressed, and any ideas that extend forwards from this study to guide future research in this domain.

B2. Literature Review

The literature review is presented at this point in the thesis as a matter of normal academic practice, rather than as a reflection of the actual time series of events as the study unfolded. The research process, which is discussed in greater detail in the methodology section that follows, was grounded in empirical data with the various elements of theory gradually woven in as and when they were needed. Whilst there are many different interpretations of precisely how grounded theory, or the processes of induction or abduction in case study research, ought to proceed there is general agreement that empirics should lead theory development, rather than the other way around. The mechanisms through which this occurs may vary, but this is the underpinning rationale that guides the production of the final analyses and conclusions that appear later in this section.

As a matter of clarity the full literature review is presented here, rather than being scattered through the findings and analysis sections. However, to give some connection between the empirical case data and the theory discussed and developed here, each section concludes with a specific consideration of how the two are connected. By drawing these case-specific ideas into the literature review it is possible to more clearly articulate the developing lines of thought and theory development.

The literature review that follows is divided into three sections: the first looking at existing models of performance management systems and their relevance to the current empirical setting; the second addressing issues of accountability that underpin these system models; and the third addressing the connection between these accountabilities and various theoretical perspectives on the role of business models and their use in the analysis of organisational activity in general, and performance management in particular. The aim is to systematically develop the connection between these theories and the current empirical setting, highlighting areas for the advancement of knowledge based on the case study presented here.

B2.1 Models for the creation and analysis of management control systems

In this section five performance management and control system models or frameworks are discussed, as they relate to the case studied. The aim here is not to provide a complete review of each one, but rather to assess their usefulness and limitations when applied to a network incubator setting: where multiple organisations operate in close co-existence within and

around a central co-ordinating body, which in turn is beholden to certain external funders and stakeholders. Furthermore, this is a start-up type of environment for both the central firm and its tenants, but a very mature operating environment for the investors, so the interplay of size and maturity across the network may be more or less relevant in relation to different models of control systems. Whilst the focal firm of the research is the network incubator itself, since its performance outcomes are inextricably linked to those of the individual firms and wider ecosystem it is helping to develop, the span of different aspects of control across the system is also an important feature of the context.

This combination of conditions makes this a rather interesting and relatively understudied context for control theorists. As such, the nature and use of control systems in this setting is an important topic for investigation, since “studying the role of novel MCS practices within contemporary settings is necessary to ensure that MCS research is relevant.” (Chenhall, 2003, p. 130). By exploring the origins, underpinning assumptions and ways of seeing that are embedded within each model it is possible to extract those elements that are most useful or relevant in this particular, contemporary setting. At the end of the individual reviews these key ideas are drawn together to guide the analysis of the case.

The models selected for consideration in this review are chosen based on the guidance of Berry, Coad, Harris, Otley, and Stringer (2009), who offer a detailed literature review within which they suggest that three dominant models of integrated performance measurement and management systems exist - the balanced scorecard (Kaplan & Norton, 1996), levers of control (Simons, 1995) and the extended PMS framework (Ferreira & Otley, 2009). In addition, the highly cited framework developed by Malmi and Brown (2008) and the Conceptual Model developed by Broadbent and Laughlin (2009) as an adaptation of the Ferreira and Otley (2009) framework are included. The review of these five models takes a focussed and critical look at how they guide the study of management control systems.

One particular aspect of control theory that emerges from the data, as will be seen in the following sections, is the importance of informal control systems and of socialised, collective groups that may be conceptualised as clans for the purposes of some forms of control (Ouchi, 1980). Attention is therefore paid to the connection between control system models, the empirical setting, and the concept of clan control.

B2.1.1 The Balanced Scorecard (Kaplan & Norton, 1996)

Of the models noted above it is the balanced scorecard that has had the most organisational traction, and has been the subject of continual development by the authors through a series of additional related titles (Kaplan & Norton, 2001, 2004, 2006, 2008) that extend certain key aspects of the original theory. Unlike the notion that controls are essentially a ‘package’ of potentially disconnected or unaligned systems (Otley, 1980) the balanced scorecard approach assumes that it is possible to combine non-financial measures with financial measures in a way that takes them from loosely couple local systems to a tightly linked causal chain that passes through the entire company (Norreklit, 2000). Norreklit (2000) provides a detailed critique of the assumptions that underpin this model, but of particular concern in the current research context is the ways in which the model has been created and described, and what this might mean for its use in this case.

The participating organisations in the creation of the balanced scorecard were all large, stable, and primarily US-based corporations with well-established routines for the creation of their accounting performance metrics. What they suffered from was less developed, poorly embedded ways of measuring and managing non-financial metrics linked to performance enhancing activities that support the development of capabilities and exploitation of intangible assets. This originating context very much dominates the normative approach of scorecard creation and implementation – it is a tool for adding new layers of data into an established, but financially dominated, system with a strong focus on internal activities and a drive to create shareholder value. Within the balanced scorecard approach there is little scope for external influence or accountability other than to shareholders, or through the need to appeal to customers in a certain market, and there is an implicit assumption that value creation is linked to internal capabilities that must be developed internally and for the exclusive use and benefit of the firm. The notions of open innovation or any form of collaborative organisational activity do not feature. Furthermore, design and implementation of the scorecard is a top-down activity led by senior executives and aims to create strong internal alignment to their stated strategies. Its use as a strategic management system stems from activity that is essentially cybernetic in that it is presented as a cycle of action: target setting, feedback and learning, clarifying, communicating then back to target setting (Kaplan & Norton, 1996, p. 11). Throughout this process there is a belief that the organisation can boil down its shared understandings of performance to a few critical drivers.

The extensive collection of books and papers linked to the balanced scorecard produced by its authors have created a simple to understand and apply tool, with a certain ‘something for everyone’ appeal because every topic of organisational activity is covered somewhere. However, as an attention focussing device the model clearly focusses managers on a highly normative, top-down, internalised route to the creation of value, and a shareholder-focussed understanding of ultimate accountability and value distribution. For the study of control in a network incubator, which is our focus here, the level of fit between the empirical reality and the ideal-type balanced scorecard is likely to be limited. What this approach does force to the forefront of any analysis is a consideration of how easily a cause-and-effect relationship can actually be constructed, that links different activities within the JVO to multiple intermediate and ultimate performance goals, across the spectrum of stakeholders.

B2.1.2 Levers of Control (Simons, 1995)

Simons (1995) Levers of Control model started out with a very particular organisational problem in mind, as he explains in the first line of the preface: “I began work on this book more than ten years ago with a simple question: How do managers balance innovation and control?”(Simons, 1995, p. ix). The most notable theme that emerges from Simons’ work as it is presented in 1995, and extended through subsequent analyses and developments, is the notion of tension or balance between the creation of order and predictability through diagnostic, often financial, control measures and the liberation of employees to be creative, innovative and risk taking as they seek new opportunities on behalf of their employer. He expresses this as follows: “These four levers create the opposing forces – the yin and yang – of effective strategy implementation.” (Simons, 1995, p. 7) Rather than being opposite forces these different tools can be used creatively and in conjunction with each other, as suggested by Merchant and Van der Stede (2007) who argue that we can create simultaneous tight-loose controls through powerful and rigid sets of beliefs and expectations, linked to loose boundaries & diagnostics to encourage entrepreneurship and innovation.

In later work drawing on the levers of control framework, Mundy (2010) shows how the balance of controlling and enabling use of the levers can lead to beneficial dynamic tensions, and she argues that the ability to do this successfully is in itself a uniquely valuable organisational capability. This in turn feeds into the conceptual development of the framework by Tessier and Otley (2012), who again emphasise the dual role of controls, defining them as enabling or constraining. Their model extends out from the levers of control

themselves, and pays particular attention to the intentions of managers in their design processes, the ways the controls are presented, and the ways they are understood and perceived by employees. This broader view of the framework gives greater importance to the role of individual behaviours and understandings of control, since these will be assumed to influence the ways managers set rewards and punishments, or use their controls interactively to set or manage future strategies and objectives.

The levers of control framework, in both its original and revised forms, provides a neat analytical tool for the diagnosis of a control system that relies on creative tensions. What it specifically lacks in its initial conception, and what has not been explicitly added in future developments, is any detailed attention to social or cultural controls that are informal, non-managerial, or extending into the firm through the influence of external groups such as partner organisations, co-located and intimately connected tenants within a shared building, or a scientific community with shared values and practices. However, there is no reason why the initial conceptualisation of the model as including only formal, managerially designed controls needs to be tightly observed. One potentially useful concept here is that of clan controls (Ouchi, 1980), which offers useful ways of understanding more informal or non-managerial controls and their effects on individual and collective behaviour.

According to Ouchi (1980) the concept of clan control offers an alternative way of understanding the mechanisms that guide and control transactions, quite different from markets and bureaucracies, which may apply in situations of goal congruence. Clan control relies on the socialisation of individuals into an organisation, and this socialisation then becomes the principal mechanism of mediation and control: the organisation does not need to measure performance or direct employees because their natural inclination is to do what is best for the firm (Ouchi, 1980, p. 132). This clan effect is not necessarily a within-firm phenomenon – the definition of ‘organisation’ used is deliberately more open than this: “An organisation, in our sense, is any stable pattern of transactions between individuals or aggregations of individuals.” (Ouchi, 1980, p. 140). The examples of trade unions or professional associations are given as possible clans, being groups where there are shared objectives and some sense of dependence upon each other, a goal congruity that underpins the socialisation process when clans are formed and reinforced.

If it is possible to establish some sense of what kind of clan or clans exist in the current research context, then the levers of control framework provides two routes to understanding the system in a more holistic way: As originally intended it brings into focus the combination

of controls as they are designed and iteratively developed by management to try and ‘fit’ with their own perceptions of their operating environment, but on a different level it offers guidance on how to interpret the effects (deliberate or otherwise) of the clan on the activities of different individuals and firms within the ecosystem.

B2.1.3 Control as a Package (Malmi & Brown, 2008)

Use of the clan control concept in later studies draws on Ouchi’s work but can adopt a more limited understanding of this control mechanism, such as the framework proposed by Malmi and Brown (2008). This highly cited model offers what is supposed to be a comprehensive, new typology of controls within a firm that brings into focus two specific areas of control activity: decision making and employee behaviour control. However, whilst it does offer a significant contribution to the understanding of within-firm control systems it is limited in the current context by its lack of consideration of controls that extend into the firm from outside of its organisational boundaries. In particular, the model only considers within-firm clans, being part of internal cultural controls. By treating clans in such a way it is possible to neglect or downplay the role of potentially very powerful external influences on either the construction of a control system (for example, through guidance from professional associations), or the behavioural responses to the system in action (for example, through unionised working practices or the shared identities and behaviours of knowledge workers with a strong, shared network of extra-firm associates). For our analysis it is important, therefore, to retain this boundary spanning notion of the clan when considering the activities of multiple, small, co-located organisations such as those in an incubator or science park.

The restricting of clans within a control system to only those within the firm comes from the definition of management controls offered by Malmi and Brown (2008), which hinges on two factors: Firstly, the control must be something that is put in place by management in order to direct employee behaviour (Malmi & Brown, 2008, p. 290) , and secondly it must be a system that establishes some form of accountability and is not only used for information and decision-support by managers who self-detect and self-correct any unwanted variances (Malmi & Brown, 2008, p. 292). The effect of these conditions on the way we see control systems is the downplaying of multiple other informal accountabilities that impact upon decision making: the social forms between peers and the self-regulation that stems from the prospect of some future reporting requirement (Roberts, 1991), the sense of personal accountability based on internalised values and beliefs (Sinclair, 1995) or a commitment to

higher principals (Laughlin, 1996) whether they be the deities or prophets who might steer thought and action amongst the religious, or the notional “patient” whose needs and vulnerabilities might guide the activities of those working in a health system, from scientists engaged in drug discovery through to the those managing or delivering care.

Keeping these elements out of the definition of management control system, and therefore the framework proposed to guide the analysis of any system, becomes increasingly problematic where personal beliefs and the role of social groups such as clans become more important and influential. Certainly in a study context where we are looking at more negotiated forms of control across firm boundaries, with knowledge workers motivated as much by intrinsic as extrinsic drivers, we need a more comprehensive view of control: a view that pays attention to control as it is experienced, rather than only being interested in control as it is managerially created. As such, the control system package typology is useful in that it offers guidance when questioning and analysing the systems within the JVO, or any of its tenants or wider stakeholders, but it must be used in conjunction with a much wider view of controls that span the ecosystem.

B2.1.4 Extended Framework (Ferreira & Otley, 2009)

The extended framework devised by Ferreira and Otley (2009) offers the broadest conceptualisation of what a control system includes in that it incorporates informal as well as formal systems, and those controls or objectives set by managers at any level, not just those that are part of a top-down system design. The framework is quite deliberately diagnostic in its intent, with its series of questions that “provides a broad view of the key aspects of a MCS and that allows researchers to obtain an holistic overview in as efficient a way as possible.” (Ferreira & Otley, 2009, p. 264). This stands in stark contrast to the normative approach taken by Kaplan and Norton (1996) with their attempt to offer quite specific guidance on the creation of a control system, embedded in a highly deterministic approach to control and performance. The analytical approach taken by Ferreira and Otley (2009) is one of a logical, quasi-causal flow from vision and mission at the top of the list of questions, down through structure, strategy, KPIs and objectives, to the ways in which performance is evaluated and rewarded. The sequence of eight questions, accompanied by four broader contextual questions, is a useful tool for any control system analysis, but perhaps of most interest here is

the acknowledgement that such analysis must pay close and specific attention to the form the organisation takes, as well as its external relations.

Although the authors draw on the descriptive definition of an organisation offered by (Chenhall, 2003), who is also referenced extensively by Malmi and Brown (2008), the difference here is that Ferreira and Otley (2009) make much greater reference to the multiplicity of organisational forms in existence, and the particular importance of considering controls that span formal organisational boundaries. In fact, many of the questions that are asked within the framework are applicable and useful when attempting to understand a control system for any organisation that fits the much broader definition offered by Ouchi (1980). What may alter is the way the questions are asked and answered, and in the current context this will be informed by the developing understanding of the case study site.

B2.1.5 Conceptual Model (Broadbent & Laughlin, 2009)

The notion of reframing the questions based on the particular context of the control system is addressed in some depth in the Conceptual Model offered by Broadbent and Laughlin (2009). The authors offer a useful extension of the Extended Framework that helps users to better understand the societal and organisational situation in which the system is located, and is trying to control through both direct and indirect financial flows and accountability mechanisms (Broadbent & Laughlin, 2009, p. 284). Using the study of different forms of rationality, with instrumental and communicative being offered as the fundamental and polar ideal types, the authors link these to four other Weberian forms of rationality and explore their roles in the creation and use of any system. The outcome of such an analysis of rationalities is a set of assumptions about how a control system should be interrogated within a given context, using the more functionally-oriented eight sets of questions in the framework. This leads, ultimately, to the characterisation of the system as being either ‘transactional’ or ‘relational’, although the authors suggest that empirically it is likely that parts of any system will exist at different points along a continuum between these pure forms. The overarching suggestion is that, “the conceptual language of ‘transactional’ and ‘relational’ provides a powerful and meaningful way of categorising, in broad conceptual terms, different PMS” (Broadbent & Laughlin, 2009, p. 290) and in conjunction with the contextual analysis, the consideration of rationalities, and the functional information gained from the core eight questions, this gives us a comprehensive language for the description of any performance management system.

B2.2 Model integration and use for analysis

Importantly for this particular study, of the frameworks and models discussed thus far it is only this development of the Ferreira and Otley (2009) framework that addresses the specific issue of a system that is in place within one organisation whose role is to regulate the behaviour of others, which gives it particular relevance when considering the systems in place within a network incubator setting. It is suggested that: “The purpose of such organisations is to design their PMS in such a way that manages its own organisational behaviour to deliberately target other organisational PMS to attempt to ensure compliance to some regulatory requirement. This makes the nature of the PMS as well as the answers to the eight questions more complex.” (Broadbent & Laughlin, 2009, p. 291). The authors draw a line under this topic at this point, stating that questions about the nature of such systems are essentially empirical rather than conceptual. Whilst they appear to imagine such an empirical example to be some formal regulatory body that is likely to rely on a more transactional PMS, this is not the only type of organisation whose primary role is to influence the performance of others – that also quite neatly describes the network incubator. However, the likely modes of rationality amongst a community of scientists, brought together in an incubator dedicated to enhancing collaborative scientific endeavour through open innovation, are more communicative and likely to lead to a more relational approach to multi-organisational control.

This presents an important practical, empirical problem relating to levels of analysis. With the control system of the JVO so closely linked to the ecosystem within which it is embedded as a central actor, for analytical purposes they can be considered as two parts of the same system. This makes the following warning very much more applicable: “A difficulty in studying specific elements of MCS in isolation from other organizational controls is the potential for serious model underspecification.”(Chenhall, 2003, p. 131). This suggests that, for this particular case study, any meaningful analysis of the control system of the JVO requires an equally meaningful analysis of the broader ecosystem control systems.

What is needed for this multi-level analysis a way to frame the application of these contextual, rationality oriented and functional questions that helps us to make sense of these interacting systems. One possibility is to adopt the organisation definition offered by Ouchi (1980) and at the same time conceptually invert the clan-organisation relationship proposed

by Malmi and Brown (2008). This would structure the analysis such that it treats the ecosystem of individuals, start-ups, service organisations and the JVO itself as an ‘organisation’, one which (as will be described in the findings section, later) operates very much like a clan: a group of broadly goal-congruent actors socialised through co-location, use of shared facilities, and the deliberate actions of the JVO.

This organisation can then be studied using the Ferreira and Otley (2009) framework to guide the analysis of relationships between shared or separate visions and missions and the different structures, objectives and control mechanisms present, with specific care taken to investigate dynamic tensions between types of control (Merchant & Van der Stede, 2007; Mundy, 2010; Simons, 1995; Tessier & Otley, 2012), since we might expect these to increase with such an array of actors involved in control at this ecosystem level of study. In parallel with this ecosystem-level questioning of the clan-organisation those same questions can be asked of the JVO itself, exploring its performance management activities as they impact upon the achievement of both ecosystem oriented objectives and any more self-contained measures of success.

If this analytical approach is to be followed it is first useful to see how the concept of a clan provided by Ouchi (1980) maps across to the organisational and societal framing questions, those that explore context and rationalities, offered by Broadbent and Laughlin (2009). This theoretical mapping exercise may help to identify particularly useful avenues for detailed inquiry, as we attempt to understand this type of control system. Within clan control in general we see the importance of value-based controls linked to shared understandings and beliefs, in turn linked to some form of member selection and/or socialisation. This appears to be a close relation of “value rationality” or “substantive goal rationality” (Broadbent & Laughlin, 2009; Weber, 1978) which exists at one end of the transactional-relational spectrum within the revised framework. However, whilst clan control is conceptualised as leading to a minimal requirement for formal controls, the adapted framework’s view on how substantive rationality underpins decisions about performance management tools and measures is more nuanced: “This has tended to set any form of formal measurement, in which accounting is clearly implicated, as something that has no place in substantive rationality, yet this is too simplistic. The key is the nature of the way the systems are used. Accounting and calculation can come from working under substantive rationality as long as they fairly reflect the values and concerns of stakeholders to the PMS design.” (Broadbent & Laughlin, 2009, pp. 288-289). Perhaps one way of understanding this is to see

goal congruence and shared visions driving the creation of accounting measures and controls, as opposed to more transactional approaches where accounting and control are used to create goal congruence where otherwise there might be none.

This combination of approaches has the potential to give a rich and detailed analysis of the control system within this study, yet it is important to remember that such an analysis must also pay attention to temporality. This is present to some extent in the strategic feedback loop proposed by Kaplan and Norton (1996) as surrounding the use of the balanced scorecard, and is the subject of significant questioning in the four contextual questions offered in the original Ferreira and Otley (2009) framework: questions referring to both feedback and feedforward systems, and a specific concern for the question of how the control system has changed and whether such changes have been proactive or reactive in relation to both organisational and environmental factors. It can be expected that any new network incubator, tasked with the development of a new ‘clan’ of open innovation oriented start-ups and related entities, would go through different phases of control systems development as stakeholder groups grow and change, operating conditions develop, and emergent opportunities influence evolving strategies.

B2.3 Performance goals and Accountability

Chenhall (2003) highlights a critical issue in any research relating to management control systems: the question of what actually constitutes organisational performance? If the purpose of research is to understand, explain or appraise the control systems then the goals of that organisation must be well understood, since “a primary function of MCS is to measure progress towards desired organisation ends” (Chenhall, 2003, p. 136). This consideration of goals, he suggests, is both rich and dynamic: it should look at how they are formulated, their evolution, the alignments and tensions when dealing with multiple goals from multiple stakeholders, and the ongoing reciprocal relationship between goal setting and the control system. The frameworks discussed in the previous section offer guidance on how to create the evidence for such a contingency-type analyse of control system ‘fit’, but the value judgements that follow are empirical: the success of the system is judged by whether the chosen control strategy is achieving its intentions and, in the process, delivering the necessary accounts – both formal and informal – so that such judgements can be made (Broadbent & Laughlin, 2009). When dealing with a single, relatively stable firm with one set of

shareholders and a clear value chain, there is a logical flow to the study of performance expectations, and the accounts given up through the hierarchy. However, in this study we face two specific complications: firstly the number of firms within the ecosystem, network or clan whose goals need to be addressed, then secondly the fact that in certain scientific fields the time lag for financial measures of success are very long, so alternative measures of performance, and types of account, may be particularly important.

Dealing with the issue of multiple goals first, we know that if the broader definition of organisation, linked to the notion of clans by Ouchi (1980), is to hold then certain conditions need to apply. Most important is the need for goal-congruence within the clan. This does not mean shared goals, but rather that there are limited tensions between competing goals: they can all be successful at once, and in some cases more successful together than they would have been outside of the clan. Even if this goal congruence holds, it is likely that clan members will have different expectations of each other and of the convening, hosting and service providing JVO. These expectations become manifest in their demands for accountability, as different actors determine whose 'goods' must be sought, both inside and outside of the clan, and whether such goods should be defined in purely economic terms for the purposes of creating and delivering accounts (Schweiker, 1993). There is also the possibility that goals will be met without the need for the giving or receiving of accounts, financial or otherwise, where the achievement of strategies do not need the intervention of such devices (Broadbent & Laughlin, 2009). This brings forward another important issue, which is the careful study of voids where accounting does not exist (Choudhury, 1988) in order to develop a complete picture of how control, in all its technical, social and internalised forms, affects the organisation.

The second complication highlighted above is the likely requirement for multiple forms of accountability to be required by the separate legal entities operating either within or without the clan-organisation, and with some stake in its short or longer term performance. Various studies have demonstrated how accounts must be created to address both the goal expectations and the multiple communicative rationalities that underpin the content and delivery method of these accounts. For example, in new product development projects the ways accounts are given, and decisions about investments made, may rely on strategy talk blended with accounting due to the ambiguous nature of the process and the limits on calculability (Jørgensen & Messner, 2010). Even when calculability is more certain, such as when fund managers visit CFOs to discuss accounting performance, they are equally

interested in the personal accounts of the executives and using these to make judgements about their ability to deliver promised future returns (Roberts, Sanderson, Barker, & Hendry, 2006). Such accounts, whether relating to new product or corporate performance, incorporate an important element of personal testimony (McKernan, 2012) that relies on a willingness of accountants to expose themselves to personal scrutiny that may test the limits of their narrative and reflexive capabilities (Messner, 2009). When multiple parties come together within a wider ecosystem they are likely, therefore, to create a range of accountabilities that span multiple forms and modes of delivery. The analytical challenge this presents is the need to formulate a rich picture of the network of goals and the methods by which their achievement is claimed, proven, explained away or even accepted without accounts of any kind.

B2.4 Performance goals and Accountability – Application to the case

In this case study many of the individual actors, whether in managerial roles or purely scientific roles, are likely to be acculturated into long-term R&D performance management approaches, having come into this environment either from a pharmaceutical industry or a university background. Such approaches focus on measures of scientific advancement, and the accounts they offer to potential funders are predominantly scientific in nature, whether that is governmental funding or in the case of big pharma the progression through some form of stage-gate process. They may have to justify their expenses, but success is essentially linked to an accumulation of valuable intellectual capital that, after several years, will be converted into saleable products. However, these extended timescales put pressure on resources, since biotech firms typically have limited financial reserves and physical infrastructure, so they need to efficiently advance their science before resources run out. This is likely to have implications for the kinds of goals they set and the expectations they place on the network incubator, both of which will be driven by their approach to the creation of ‘value’ through scientific, rather than economic, advancement. Only once a clear understanding is reached about this value creation approach, the roles the different actors play within it, and the ultimate exit strategies for the owners of these start-ups can the goals of these firms be brought into clear focus.

In contrast to the individual firm, micro-view of success that underpins the goal orientations of individual network incubator tenants, the larger organisational stakeholders that provided the initial funding for this venture are likely to have quite different goals and

related expectations of the incubator management. As Chenhall (2003) stated, it is important to understand how goals are formulated, and in this case there must be some underlying rationale behind the significant investments made that – given the timescales involved in these bioscience processes - connects to the longer term aspirations of these stakeholders. Operating as they do on a global scale, such aspirations may be embedded in beliefs about the nature of the industry, or desires to shape the industry in a certain way, and this will determine the nature of the expectations they place on the network incubator. Again, given the extended timescales for bioscience product development, and the high failure rates, there are likely to be important intermediate notions of success at the level of the collective group of firms within the network incubator that must be identified and understood if any investor-centric concept of ‘performance’ is to be established.

For the network incubator itself the network of accountabilities reflects the complex nature of its existence: it must respond to the investors macro-performance objectives and long term aspirations whilst successfully cultivating the individual firms and helping them to achieve their separate scientific goals. Into this mix is a commitment to process made by holding itself out as a network incubator – something more than a mere landlord but rather a facilitator of connectivity, open innovation and advancement through collaboration. How this is incorporated into notions of performance against objectives, and who holds the incubator management accountable for the achievement of such goals, is an important empirical question.

In sum, it is clear that the performance of the network incubator is linked to the goals of many stakeholders, who will hold it accountable for the achievement of those goals in many ways. To unpick this we first must investigate the expectations both tenants and investors have of the incubator to help them with their value creation activities, be that financial value or some other form of value accumulation such as the development of valuable intellectual property. We must also understand the role of the network incubator in helping them to capture this value: at the micro level this might involve the leveraging of networked resources by tenants to secure suitable exit routes for their innovations; at the macro level it might involve carefully planned long term management, recruitment and interactions with the big pharma stakeholder to secure improvements in their long term drug discovery pipeline. Only once the business model of the network incubator – being the explanation of how it creates, delivers and captures value (Teece, 2010) – is unravelled can we see what goals are being set

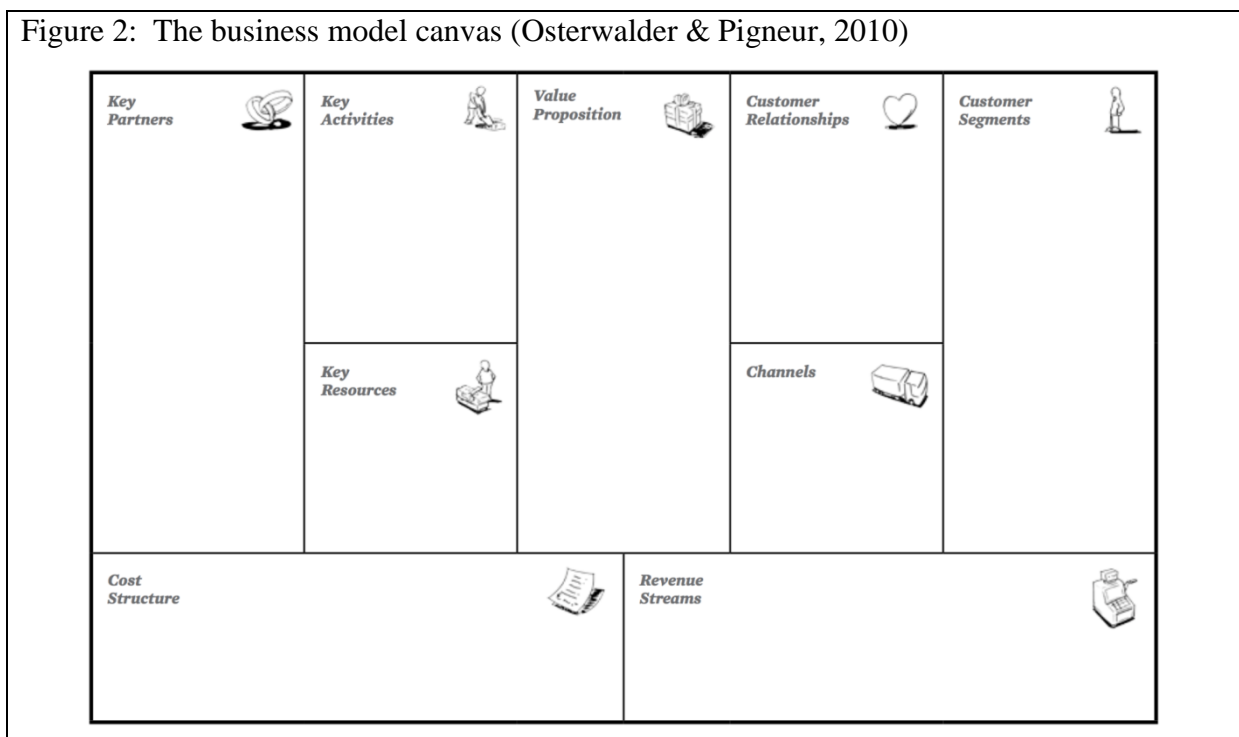
by whom, who is being held accountable and how, and therefore how is performance management understood and managed in the context of such a multi-organisational setting.

B2.5 Business models and their interactions

The emergence of business models as an area of academic interest is a relatively recent phenomenon, having been through a process of evolution since early attempts at definitions in the late 1990's based on work in high technology electronics industries (Osterwalder, Pigneur, & Tucci, 2005). It is the research literature from this high technology domain, and that concerned with e-business in particular, that has devoted the greatest attention to business models to date (Zott, Amit, & Massa, 2011). However, whilst more general academic acceptance of the term, its uses and consequences has been slow, public perception and its use in practice suggests that it has become an important aspect of business life (Baden-Fuller & Morgan, 2010).

The basic premise of the business model is that it presents a description of how businesses create, deliver and capture value (Osterwalder & Pigneur, 2010; Teece, 2010), with perhaps the most well established, practice-oriented framework for business model analysis being the 9-segment 'business model canvas' developed by Osterwalder and Pigneur (2010), as shown in figure 2, below:

Figure 2: The business model canvas (Osterwalder & Pigneur, 2010)

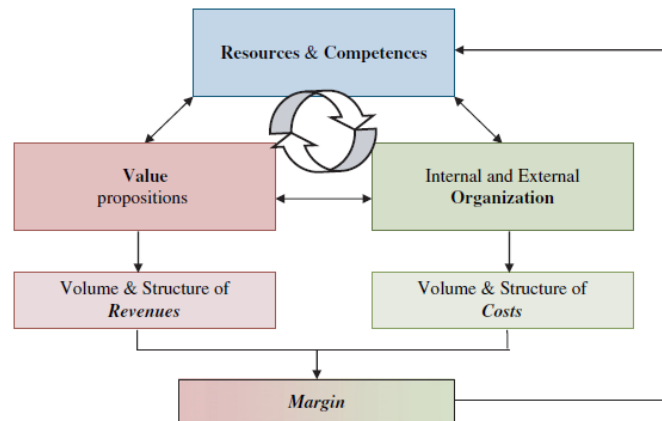


Other typologies have been developed, and what they tend to share is a collection of descriptors that highlight notions of value, network architecture as it exists between firms and exchange partners, and the financial aspects of management and performance (Zott et al., 2011). What this provides is a translation of strategies and goals into a conceptualised, functional view of business structures and systems showing the elements and relationships that describe the business it does (Osterwalder et al., 2005). By stripping down the activities to a common, conceptual core or ‘ideal type’ it is possible to use business models as descriptors of certain ways of behaving, a taxonomy possibly linked to a particular label or exemplar company (Baden-Fuller & Morgan, 2010).

Whilst this conceptualisation of business models as typological descriptors is useful in many instances, such as where would-be investors need to see how novel types of businesses actually make money, it focusses attention at the firm level where business models are proprietary, and away from a more open and flexible network level perspective that spans firms, networks, industries and markets (K. Mason & Spring, 2011). It is this wider view, extending across firm boundaries, that is required if the aim is to understand total value creation through a business model perspective (Amit & Zott, 2001; Zott et al., 2011). Furthermore, any static, descriptive conceptualisation tends to neglect network-level dynamic characteristics of business models, as firms interact, share information, learn, and adapt their routines and structures (K. J. Mason & Leek, 2008). The suggestion, therefore, is that to understand a business model in its wider economic and social context it is necessary to adopt an analytical perspective that is multi-level, multi-stakeholder and focussed on the evolution of the way these actors interact, learn and adapt their individual and collective structures and processes for value creation and capture.

Demil and Lecocq (2010) describe the bringing together of the more static and more dynamic views of business models as being an essential way of developing understandings of a firm’s ‘dynamic consistency’: its ability to adapt, through evolution or revolution, its business model through time to secure continued organisational performance. They offer what they call an ‘RCOV Framework’ as a parsimonious model to guide such an analysis, as shown in figure 3, below:

Figure 3: The RCOV Framework: main business model components and their relationships
(Demil & Lecocq, 2010)



The idea of this model is that managers should consider these components together, and repeatedly through time, since “the BM’s ongoing dynamics come from the interactions between and within the core model components.” (Demil & Lecocq, 2010, p. 234). It is through this process that they can understand the model, how it impacts performance, and therefore the ways in which they might continually optimise their business model. Those with high level dynamic consistency capabilities have the ability to identify tight or loose coupling within the components of the model, the ways changes in one component will affect others, and the organisation’s requirements for action to refine the model or drastically revise it should the need arise.

What is not made explicit here or in other models or descriptors is the role of the model itself in this process of organisational development. The business model itself is not a passive actor in this process: the way it is conceived, represented and used gives it a performative role in shaping action (K. Mason & Spring, 2011) that may well accelerate, stall or divert any process of business model change. If business modelling is, or becomes, an important aspect of managerial life then the ways in which the model is used as a tool for explanation or action could have real effects on the ways people see their roles, their organisation and the operational decisions they make.

B2.6 Business models and their interactions – Application to the case

The use of different business modelling tools or templates can be applied to any situation, but whether or not they actually help us to understand the case depends on the fit between the assumptions that underpin the model and the actual social and organisational context in question. The business model canvas (Osterwalder & Pigneur, 2010) and the RCOV framework (Demil & Lecocq, 2010) typify one approach to business modelling that has its focus at the level of the firm, looking at the performance that can be achieved by a single entity, on behalf of its shareholders. Yet within the current study it has already been established that a network incubator cannot be considered as being separate from its ecosystem for the purposes of its ways of creating and delivering value, because single-firm success for the JVO is, or should be, closely coupled with both the success of individual tenants in the short term and ecosystem growth – as desired by its primary investors - in the longer term. With the RCOV model there is, in the top half of the model, an acceptance that multiple value propositions exist and must integrate with resources, competences, and the internal and external organisational structures and processes, but the bottom half needs to be adapted to reflect not a single revenue and cost stream, but multiple value streams that address both financial and non-financial value creation as it is demanded by the multiple stakeholders.

If a single conceptualisation of the business model of a network incubator is to be constructed, it needs to work at the network as well as single firm level. Furthermore, it needs to demonstrate something closer to a total value creation process that spans the ecosystem of firms that connect to the central JVO, whilst still identifying the component parts of the system that contribute to, and benefit from, these business activities. The aim is to create a clear understanding of who is doing what, for whom, and with what ends in mind, such that it is possible to map out the different accountable relationships that span the business model components. By identifying such accountabilities it may then be possible to better understand what forms of control are in place to ensure that such accountabilities are satisfied, and in so doing gain a greater understanding of the role of control systems within the network incubator business model. Not forgetting, of course, that this is an ecosystem in evolution and therefore possibly dependent upon a continuously evolving control system.

B3. Methodology

This research takes the form of a single case study based on qualitative data, following the same methodological approach to interpretive research and grounded theory development as explained in Part A of this thesis.

One particular feature of the methodology that does vary is the insertion of a final stage of data collection and data validation, in the form of a feedback interview with senior staff at the case study organisation. Part 3.1 gives further details of this process, and refers forwards to Part C of the thesis where the method developed for this thesis is explained and demonstrated in full. Part 3.2 of this methodology considers the specific issue of levels of analyses; then part 3.4 describes the methods of data collection and analysis utilised, and summarises the data sources used.

Relating this process to the current study, it has already been explained in the literature review at section 2 that the aim here is to systematically develop the connection between the current empirical setting and theories of control, accountability and business models, highlighting areas for the advancement of knowledge based on the synthesis of case study data and existing theory. It is for this reason that multiple theoretical perspectives are discussed in the previous section, and will be brought to bear in the first and second order analyses to follow.

B3.1 Feedback Interviews

The methodology employed in this thesis is, in part, a novel approach based on the integration of ideas from interventionist research and critical discourse analysis into the analysis of case data and the verification of theories under development. The approach relies on the value of creating, then analysing, texts from a feedback encounter between research and research subjects. This methodology and the particular analytical framework developed for it in this thesis are collectively termed “Feedback Discourse Analysis” and the intention is that this offers a contribution to research methodologies distinct from the thesis’ primary areas of investigation. As such, the full development of the methodology is shown in a separate section of the document, in Part C.

The analytical approach developed in Part C has been created with wider uses in mind than purely this case study. However, its creation was inspired by the need to validate a wide

range of ideas in this study as well as the first study, following the progress of the Shard abseil. In this case the nature of the multi-stakeholder entity that is this JVO is so complex that developing a clear understanding of its firm and ecosystem level management activities presented a significant challenge. A meeting was therefore agreed with the CEO of the JVO, his Business Development Manager (and effectively his 'right hand woman'), and the consultant who advises them on all matters relating to performance management. The meeting lasted for a full morning, commencing with informal discussions (1 hour), then a more formal presentation of a series of ideas with regular discussion of these ideas as each one was offered up for comment (2 hours). Finally, an informal meeting with just the Business Development Manager and Consultant was used to focus the ideas discussed and give direction to the final analyses and any knowledge based contribution that the researcher would provide for the benefit of the JVO (1 hour).

It was not possible to record the discussions at these meetings through a digital audio recorder, so instead written notes were taken both during the meetings and immediately afterwards. The final meeting acted as a more forward-looking summary of the others, which gave a chance to clarify points written down during earlier conversations. The inability to construct a fully detailed written text from the interviews does limit the ability to apply the FDA Framework in its full capacity.

The feedback presentation is covered in section 5, where the theoretical developments of this Part B of the thesis are discussed, and that discussion is linked to the actual feedback encounter held with the senior management team of the case study organisation.

B3.3 Levels of Analysis

The study of control systems has tended, quite naturally, to focus on an organisation-level view when looking at holistic aspects of balanced scorecard design, the integrated use of different levers of control, or some form of model-derived analysis using the extended framework, conceptual model or package model. It is also evident that these models all make assumptions about the ability and authority of management to design and implement control systems, and that these systems are the result of some choices that are made, possibly in some very well integrated manner as the balanced scorecard tends to assume, or quite loosely coupled and not necessarily well suited to working together, as the package notion allows. For this study these conditions are not such an easy fit: the JVO is attempting to build an

ecosystem centred on its incubator, but it does not have control of all the parts of that system, its major investors are not arms-length in the way that we often assume of shareholders but instead are highly engaged in governance activities, and the tenants have their own control systems that are in not formally integrated with the JVO system.

From a research perspective this creates some interesting challenges when considering the issue of levels of analysis. In order to understand the performance management systems of the JVO requires at least a three-level approach: The parent stakeholders are such significant influencers of the accountability system within the JVO that their strategies, activities and control systems are likely to be highly influential in the way the JVO itself manages and measures performance. Yet, the JVOs control systems, whatever they may be, are there to support a strategy that has at its core the notion of facilitation – helping the users of their space and services to generate scientific, financial and ultimately societal value from their innovation activities; As such, the collective performance of tenant-users is a key measure of success for the JVOs. This close connection between understanding how phenomena at one level of analysis are linked to other levels requires a multi-level approach, and there has been a call for increased attention to this in innovation studies in general (Gupta, Tesluk, & Taylor, 2007), when considering open innovation (Asakawa, Nakamura, & Sawada, 2010) and in the study of incubators in particular (Phan et al., 2005). Whilst the focus of attention in this research is on performance management within the JVO, it seems necessary to draw in aspects of stakeholder expectations of performance from across the ecosystem, where they have direct relevance for JVO systems and management strategies.

B3.4 Data collection

A range of data sources were used for this study including: interviews with JVO staff, tenants and managers from one of the primary stakeholders, internal and public facing documents from the JVO, photo and video evidence collected by the researcher and from the JVO website, and a number of informal discussions taking place either at the JVO or whilst visiting working spaces and laboratories inside both the JVO and the GSK research building next door. The full range of data used for the study is shown in table 4, below.

Table 4: Summary of Data Collected

Interviews		
Item no.	Interviewee	Organisation
1	CEO (4 interviews)	SBC
2	Deputy CEO (3 interviews)	SBC
3	CFO (2 interviews)	SBC
4	Facilities Manager	SBC
5	UK R&D Head (2 interviews)	GSK
6	Owner	Tenant of SBC (one scientist startup)
7	CEO	Tenant of SBC (contract research company)
8	Owner	Tenant of SBC (serial biotech entrepreneur)
9	Technology Transfer Officer	Cambridge University
10	Senior Consultant	Scinovo (GSK's consultancy)
11	European Head of Discover Partnerships with Academia	GSK
12	Head of a Discovery Performance Unit	GSK
13	Global Director of Academic Liaison	GSK
14	Performance Management Consultant	Retained Consultant to SBC
15	Entrepreneur in Residence (2 interviews)	Retained Consultant to SBC
16	Bioscience Marketing Consultant	Retained Consultant to SBC
Meetings and events		
17	Open Innovation Summit (2014, 15 & 16)	SBC & GSK flagship event
18	Convergence Round Table	SBC one-day event
19	Research feedback presentation and next-steps planning day with CEO, Deputy CEO and performance management consultant	SBC
Documents		
20	2011 Strategy and Marketing Plan for SBC (Predates arrival of first tenants)	SBC
21	Full suite of documents from SBC Board Strategy Away Days in 2013, including all powerpoint slides, objectives document, proposals for next phase of development	SBC
22	Proposals for Open Innovation Incubator and all formation documents for SBC	GSK & SBC
23	All annual audited accounts and monthly management accounts made available for review	SBC
24	All monthly board meeting papers and minutes made available for review	SBC
25	All auditor reports, consultancy reports from architects and other service providers made available for review	SBC

The interviews were conducted with the assistance of semi-structured guides, which were developed to be broad at the outset of the study then more focussed on emerging themes for later interviews. To facilitate a more open and discursive interview approach during the first exploratory interviews a pictorial guide was used to avoid the need for regular reference to a text, which might inadvertently break the flow of conversation. The pictorial interview guide is shown at Appendix I, and an example of a later, written guide is shown at Appendix II.

All interviews were digitally recorded, those recordings were transcribed, and those transcriptions uploaded into the Nvivo data analysis software. This software, when used appropriately, allows for the systematic storing and structuring of data whilst at the same time giving the researcher complete freedom to experiment with analytical codes, ways of sorting, and ways of seeing the data that traditional cut-and-paste physical manipulation processes cannot offer.

In between each visit to the research site, data analysis took place that allowed ideas or themes to emerge from the data, whilst also providing guidance on what topics might be sought out from the literature to inform the next stage of empirical inquiry. The literature review in section 2 of this part of the thesis represents the range of ideas that were brought in to the study as it progressed, each one helping to guide a different part of the analysis and help identify the next useful question as a satisfactory level of knowledge saturation was sought. Given the continuing changes taking place at the JVO as it evolved, as new tenants arrived, and stakeholder interests developed, it had to be accepted that data saturation in its purest form would be an unrealistic goal with such a moving target. This limitation is accepted as a methodological reality, and the analysis therefore focusses on the data available and the future expectations of research subjects as they were discussed at the times of those interviews.

B3.5 Data analysis

The analysis of data took place in Nvivo initially, coding small segments of data (usually a sentence or short paragraph) using in-vivo codes that provided a meaningful link to the raw data itself. This form of initial coding, as suggested by the grounded theory approach, gives a great deal of flexibility to the early stages of the analytical process and allows themes or ideas to emerge from the data within limited guiding or forced attention to prior theoretical frameworks. New codes were allocated to broad categorical headings, or in the case of codes

that did not easily fit into the emerging framework, new categorical headings were created. One significant advantage of Nvivo over manual coding is that it allows any piece of text to be easily coded into multiple relevant categories, which both augments the level of detailed information in each category for the next stage of analysis, and provides a start point for axial-type coding as links between categories or emerging ideas are sought.

Using the tools within Nvivo the data from each code – or in the language of Nvivo, each node – was extracted and analysed to look for patterns, interesting ideas, or themes that warranted further inquiry. This further inquiry took two forms: firstly, literature was sought to help extend the current analysis, and secondly, this combination of literature and emergent areas of interest guided the development of further interview questions, to be used at the following interviews.

This analytical process continued iteratively, as data was codified and compared, theories from the literature were sought out to augment the analysis, and further evidence was gathered through additional visits to the case study site, or further study of the provided documents. Ultimately, a coding scheme consisting of 14 primary nodes (the broad categorical headings), and 64 secondary or sub-nodes, was created (screenshots of these Nvivo codes are shown at Appendix III).

From this increasingly integrated body of theoretical and empirical data a range of contextually situated, but increasingly theoretical ideas were developed. Although no formal data structure was constructed to specify the exact process of the bringing together of nodes into themes and higher order concepts, as would be expected in a more positivistic application of the ‘Gioia method’ of grounded theorising (Gioia, Corley, & Hamilton, 2013), these authors also acknowledge the possibility and value of conceptual leaps that stem from deep immersion in the data. What these authors do not go on to discuss, but what is considered important here, is the possibility of taking such conceptual outputs and framing them in a way that allows detailed discussion of their relevance, accuracy, and usefulness with experts whose emic understanding of the research context far exceeds that of the researcher. This forms the next phase of the research analysis process, which is the development of a range of “Research Insights” to be presented back to the senior management team of the JVO in the feedback interview.

B3.6 Theory validation

The feedback interview for this study, as described in 3.1 above, provided a detailed and critical review of the research findings and initial attempts to condense these into more conceptual, but still contextually embedded, ideas and insights. There were no areas of the feedback that were dismissed as being erroneous, but more than this, certain slides were deemed to be of great value and importance by the CEO. In particular, two slides (presented and discussed in section 5, below) offering a visual representation of the performance implications of the vision of the organisation, and another of the performance management implications of a reconceptualised business model for the organisation, were subject to much discussion and a request to be purchased, used and distributed by SBC.

During the feedback interview discussions detailed notes were taken and written up later to provide an evidence trail for these new and valuable emic perspectives on the preliminary emic-etic synthesis and tentative outputs therefrom. The analysis of this feedback allowed the refinement of themes, the revision of ideas and the further development of theoretical conclusions prior to their presentation in the second part of the discussion section of this part of the thesis.

A further stage of post-analysis validation was completed following the writing up of the discussion section in this thesis. Following on from the positive feedback about the insightful nature of the research outputs, the CEO of SBC invited the researcher to present key findings and conceptual ideas about the performance of SBC at their major, annual event, “The Open Innovation Summit 2016.” This event, attended by up to 200 of their major stakeholders and senior figures from related scientific communities, government agencies, and commercial or state funded incubators, includes a half hour presentation each year on the progress of SBC and the advancement of their Open Innovation agenda. The CEO requested that the researcher deliver a 15 minute plenary presentation based on the key themes identified in the slides that he had previously considered to be of greatest value.

For the researcher this presentation provided an opportunity to examine both the within-context and wider generalisability of the insights generated by the research. Following the presentation the COO of another major, government funded incubator, a senior figure from the National Physics Laboratory (‘NPL’), and the internal consultancy group from within GSK, all approached the researcher with requests for further discussions about the research. In the case of both the NPL and the other incubator they highlighted the specific relevance of

key themes from the research to their current strategic and operational challenges, and sought to engage with the researcher on the topic of ecosystem accountability and performance management for both their own internal benefit and to potentially inform their discussions with government funders. This suggests a level of generalisability in these research outputs that extends beyond the initial context and into other areas where ecosystemic performance is of great importance to both the managers concerned, and their major stakeholders.

B4. Findings

In order to make sense of the body of data collected for this study the findings section has been broken down as follows: First is an overview of how the JVO came to be created, which has importance for all of the subsequent sections as it links to the business model decisions that were taken at the time, the actors to whom the JVO will be accountable and why, and some of the high-level factors that will influence the way the performance management system is created and adapted over time.

The business model of the JVO and its wider ecosystem is considered next, with the data presented first in a manner that gives significant voice to multiple actors, which is then brought together and developed in a first order analysis. This first order analysis of the business model follows the argument presented in the literature review that this must be understood if we are to make sense of the accountabilities that exist, as well as the controls that underpin them and deliver the value creation and distribution objectives of the business model.

The next section is the presentation of data and a first order analysis relating to the accountabilities that span the JVO and its multiple stakeholders. Informed by the business model analysis this section highlights the multiple forms of accountability, their models of delivery, and their interactions as part of a networked system.

Drawing on the evidence and first order analyses from the prior three sections, the fourth part of the findings considers the control systems in place within the JVO and its wider ecosystem. The additional data presented here is used to further develop the first order analysis, which highlights the ways in which the current control system can be analysed and understood.

Following these findings and first order analyses comes a more theoretically abstract discussion in section 5, which synthesises these ideas with extant theory to draw out possible contributions from this piece of research.

B4.1 Creation of the JVO

The JVO in this study is a relatively new collaborative venture, being in existence for less than five years and still operating within the first cycle of primary stakeholder funding. This section considers the organisation and industry level conditions that gave rise to the creation of the JVO and identifies the initial visions, goals and beliefs of the founding organisations and management teams.

The changes that the global pharmaceutical companies, or ‘big pharma’, have been going through in recent decades has been well documented in both the academic literature and the press. Increasing costs for drug discovery combined with diminishing success rates have made them re-evaluate the way they organise themselves, both internally and in relation to external sources of expertise.

“Why were the pharma industries in decline in terms of productivity? They’ve done analysis over the last, continuing analysis over the last 25 years, all comes down to lack of efficacy. You know we’re picking, we’re making better molecules but they’re not working in the clinic.” (A DPU Head, GSK)

“There’s a more explicit recognition within big pharma that you can’t afford to do everything yourself internally. Everyone is cutting back, shrinking their organisations, therefore you’ve got to go and look externally for new science, alternative expertise, etc.” (Senior Consultant, Scinovo)

“Because you know organisations like the DPU’s are much more autonomous than the old discovery organisation was. So they’ll go and do their own external deals within the constraints of their own funding so they can act like a small biotech to some extent. So that’s a big change.” (Senior Consultant, Scinovo)

The lack of efficacy of these giant organisations has led, in the case of GSK, to internal restructuring to break up the large silos of drug discovery activity. In place of these came a group of Discovery Performance Units (DPUs), each one the product of a focussed proposal

by an individual or group, working in a specific area and with clear objectives aligned to their specific activities. These quasi autonomous groups are empowered to seek the best scientists and collaborators, whether inside or outside of GSK, to help advance their particular work.

At the same time as this restructuring took place a shift was evident in the way GSK was trying to engage with, share with, and collaborate with external organisations. This manifested itself in a number of ways, such as the sharing of certain data, but more importantly for this study was the move towards ever greater reliance on external R&D to feed their drug discovery pipeline. However, this meant that there was an increasing reliance on the strength of the scientific ecosystem, in particular the emerging biotechnology companies.

“Right so what did GSK want when they talked to Mandelson, well they said we’re not as worried about the clinical trials what we are seeing is a complete lack of a robust, viable biotech community in the UK and at a time when GSK is outsourcing 50%/60% of their R&D and they see no visible signs of viable robust playmates biotech’s to engage with, they might as well be in North America.” (CEO, SBC)

“The hypothesis we’re testing here is if you build one of these and by one of these I mean an incubator, next to one of those and I mean one of the biggest pharmaceutical companies in the world who are actually doing R&D on site with 2500 people here and you can make available the expertise and the knowhow and the good will and the appetite to engage, doesn’t make the blindest bit of difference to UK Plc., will it make a difference.” (CEO, SBC)

“We often got the feedback of oh if only we’d talk to you a few years ago, we might have done things a bit differently. And that’s kind of the premise of this Science Park at Stevenage” (UK Head of R&D, GSK)

“You need a critical mass of scientists, you need people, you need clusters, OK, so for me clusters where you don’t have to move. [...] there’s a guy who’d worked for four companies and I sat next to him at dinner the night before last, he was in Boston, now works for AstraZeneca. He’s worked for four companies, all good companies, he’s had really good jobs, he’s in oncology, he hasn’t moved house. His kids didn’t change school.” (Global Head of Academic Liaison, GSK).

Rather than invest purely in internal R&D capability, GSK determined that it would provide funding and a physical location to develop the UKs first biotech incubator to share a

site with a major pharma research centre. The underlying beliefs that would guide this new incubator – to be called the Stevenage Bioscience Catalyst – were that early access to expertise embedded within GSK might help external companies, be it small biotechs or academics with ideas ready to spin out into start-ups, could help to create a larger, more dynamic and more scientifically rich ecosystem, which GSK could then draw upon in future. The driving force behind this within GSK was initially one senior member of staff who had taken a specific interest in the concept of ‘Open Innovation’, a term coined by Henry Chesbrough in 2003. But it was not only about the creation of a deeper well of ideas from which GSK could draw, it was also about protecting the supply chain for academic and commercial bioscience in the UK.

“She’s spoken to Chesborough or she was in constant contact and she’d written a paper about open innovation and how it might work and then sold it internally here, then to Wellcome Trust and remember Glaxo and Wellcome used to be part of the same organisation. And that’s how business works isn’t, you know, when there’s a good cultural fit, things happen. And then they both went to Government and said well here’s your public, sorry your private bit, we need, there’s a gap, there’s a bit of funding required, you come in. And then the story was GSK wants to see more biotech in Europe, Wellcome Trust want to see more academic industrial partnerships and more research translation and Government wants jobs, jobs, jobs. (CEO, SBC)

“Yeah I mean it’s the right thing to do, we feed off academia and biotech. As I said to you any one of those is weak we go down the swanee or we get weaker.” (Global Head of Academic Liaison, GSK).

“And you’ll have seen the announcements around Alderley Park and AstraZeneca it’s absolutely a disaster for the North West and for Manchester, it’s a disaster, because it’s the end of the supply chain in the pharmaceutical biotech space so how can you create a cluster or a supply chain if you don’t have the end of the supply chain.” (CEO, SBC)

This combined funding resulted in the creation of a not-for-profit company with a governance structure that placed GSK and Wellcome as equally important partners on the board, with government taking observing roles on the board but without executive power. The company had a mandate to build an open-innovation oriented incubator, and to actually define what such a thing is and does since it was seen as a new model for bioscience incubation. One key

aspect was to always have an eye on the unique differentiator of co-location with GSK, and to build that into the rhetoric about what coming to SBC as a tenant meant for biotech start-ups.

“We talk about being Pharma ready, come to here, come to the park because you will become Pharma ready as much as investor ready. [...] So if you want access to Pharma experience and you think that’s going to make a difference to your business then it should be here. But if you want academic engagement go to Babraham, go to elsewhere.” (CEO, SBC).

Based on this concept of a bio-incubator, funding was secured and two buildings were constructed on the GSK site: one was the incubator, which was fully fitted out and ready for tenants in early 2011, the other was an accelerator, which was constructed in shell form only pending the growth in tenant numbers and size of businesses.

“So the hypothesis was build one of these, make it the UK’s first Biomedical Open Innovation Campus, really brand it and communicate openly about what you’re trying to do in that open innovation space” (CEO, SBC)

“I’d bought into the whole ethos and philosophy and was able to sell that [to my board]. And then of course Martino needed to sell our story to the Board because he was having quite strong, you know, close control as to the types of organisations he was bringing in. But we were the first in, we moved in on the 1st of February.” (SBC Tenant)

The message presented to the industry and academia was clear and focussed – this was an incubator that gave biotechs proximity to big pharma, not just physically but also through a network of expert advisors, a place where open innovation would help to advance your science more rapidly and with an early focus on being market ready. Furthermore, this was more than promotional rhetoric, it was emphasised throughout the tenant recruitment stages, with specific implications for the accountability structures and the development of the SBC business model, both of which are discussed further below.

B4.2 Ecosystem oriented Business Models

The route through which the JVO came into being incorporated many stakeholders with many different expectations in relation to the value they seek from the JVO and the surrounding ecosystem. This suggests that the business model of the JVO must in some way incorporate multiple ideas about value creation, value capture, and the mechanisms for linking these and managing its activities. Of course, different stakeholders with different agendas may understand the business models quite differently, leading to different views on how to achieve the right approach to managing value. This section explores the findings relating to the business models of the JVOs by focussing in three broad areas – the business model as conceived and initially put in place by managers, the sources of evolution in the business model, and the business model related concerns expressed by different stakeholders in relation to their experiences of working with the JVO.

The creation and capture of value at SBC can be explored on multiple levels and across multiple time horizons, each of which feeds in to a picture of the overall SBC business model. In the previous section the scale of investment in SBC by the three funding stakeholders was highlighted, with their expectations of SBC executives and the long term goals they want SBC to achieve. These investors are not arm's length, however, as the SBC board contains individuals from each of these stakeholders and they have an intimate role to play in the development of SBC strategy. Their requirements as stakeholders, and their beliefs about where long term value comes from, have a direct impact on the way the SBC business model is constructed.

“At that strategy day, David Griffiths Johnson from BIS he basically, saying I'm not interested in your incubator, tell me what you're going to do in the 25 acres because that's where the jobs are going to be.” (CEO, SBC)

“Our science is not driven by the financial return; we're driving new medicines by the science that's available. So if there's science available to make a medicine and that can make a real difference to patients, the DPU's have focussed on that. If you look at this maybe like pharma did, you know, many years ago based on what's the financial return but there's no science there, you're not going to discover anything.” (Head of UK R&D, GSK)

“We're not a research council or an altruistic, you know, we have to make money somewhere down the line, we hopefully do that through doing world leading science with

external people who do world leading science. And we do, there's something in it for everyone, you know, that's how I, that's how I honestly see it." (Global Head of Academic Liaison, GSK).

The rhetoric exemplified here highlights certain important beliefs that extend from the board members' own domains, whether that is in national policy making or the management of a sizeable national R&D operation. The focus on scientific value creation as a route to financial value creation is an important one, as it was part of the rationale behind the restructuring of GSK internally and now part of the drive to engage more externally through multiple channels, including SBC. It means that SBC needs to also be focussed on science and connectivity, rather than on pure, short term financial returns. This goes against much common practice amongst incubator managers:

"Every incubator manager loves to be 100% because they'll have done their business plan against 80% to break even which means all of a sudden they've got profit, they're heroes. So it's just a flawed model because it should be about the quality and not fill the space, we're not supposed to be science parks.[...]"

"There are elements of ecosystem design that are quite deliberate, around the topic of who is let in as a tenant and how they help to shape the offering but also the work that is done at SBC. [...]"

"That's why I said the catalyst word is so important, we want to be seen, our vision, the Board's vision is to be a catalyst for the conversion of innovation into commercial reality in the UK." (CEO, SBC)

The central driver of value creation in the SBC business model is this furtherance of science, this process of moving a good idea from wherever it is located in academia or commerce into the incubator domain, so that it can be nurtured, developed and exited in some augmented form ready for commercial exploitation. Whilst there is much talk about 'patient benefit' and about the role of the NHS within the system, there is no apparent tension between this public good intention and the belief that commercial success is also essential for those who participate in this extended process. Building on these broad-based beliefs the SBC business model attempts to be different from other incubators in the way it nurtures science; The activities its staff engage in on a day to day basis reflect their belief that they are more

engaged with their tenants, have a greater understanding of their scientific and business needs, and are working to assist them with these rather than treating them merely as rent-paying users of incubation space:

“So myself and the entrepreneur in residence tomorrow we’ll just sit down with him and let him talk through those business ideas and perhaps challenge him on certain things in the plan and look at how far he’s got [...] So it’s how we can look at that and with the network we know help him make that decision without spending too much money on filing, patents and spending lots of money leaving his practice, setting up a business.” (Head of Business Development, SBC)

“So if they need advice on areas that they don’t want to build a capability in, maybe toxicology or something like that, we can give that advice.” (Head of UK R&D, GSK)

“We’re trying to go out and help create the value, to get a collaboration to a point where GSK would sign. [...] We’re doing this to hopefully increase the number of collaborations that we ultimately do, and to make ourselves the partner of choice.” (Senior Consultant, Scinovo)

“We’re offering non-exec style advice from very senior people who have got years of experience, to companies that haven’t got a clue about that stuff.” (Global Head of Academic Liaison, GSK)

The understanding here is that tenants at SBC can benefit from both business help and scientific help, and that whilst they may be idea rich in a very specific area, they are frequently both time poor and finance poor. The role of these advisors is to find ways to allow tenants to pursue their science more effectively, rapidly and economically, effectively extending their chance of success before their time and money run out. To this end SBC has a network of some 30 ‘Expert panel’ members who are available, to different degrees, to provide initial free advice to tenants. The executive team at SBC, in conjunction with the entrepreneur in residence and the Scinovo consultant, provide the initial guidance on what advice might be sought and help tenants identify their developmental needs. They also draw on their network of other experts to make connections for tenants, for example to venture capitalists, funding bodies, IP and legal experts or contract research organisations (‘CROs’) with specific expertise in their area.

At the outset the business model of SBC assumed that links to academia would lead to the identification of future tenants, but this evolved to the point where two universities decided to take their own space in the incubator in order to accelerate this process:

“we are totally motivated to get the university’s publically funded research out into society for public good. And we transact on that, so we do contracts, we do you know licenced contracts, we’ll put things into spin outs [...] here was a strategic decision that we would take an interest in the SBC and that strategic decision was made at quite a high level. And it was made because of this need for developing things which come to us in order to effectively make them transactable in any way at all.[...]”

“So the reason for coming here is this is where the academic projects will benefit from understanding of stuff that pharma do. So it is the other way round, the kind of relationships perhaps that have been.” (Tech-Transfer Manager, Cambridge University)

“One of the guys who is coming is Professor Steve Caddock, ‘Mr Open Innovation’ at UCL. [...] So he’s sold it to his team that it’s just going to be as beneficial for them to be here as it is to traipse in and out of London’s UCL labs that are predominantly academic and they obviously feel ready to go in so much more of a commercial environment.” (CEO, SBC)

Each university took a slightly different approach, with UCL fitting more closely to the original idea of bringing projects that were more advanced and potentially ready to spin out in to small biotech firms. The Cambridge approach, in contrast, was to use this as a way of giving projects early access to the commercial knowledge of big pharma, while developing staff in a more commercial environment, without necessarily deciding at the outset whether the projects go out as a licencing deal or as a spin out. What connects the institutions is that both Cambridge and UCL applied for significant grant funding in order to be able to build their presence at SBC, and were required by funders to collaborate in their approach and in certain aspects of their work. One element of this collaboration, which required the reconsidering and rewriting of significant parts of their tenancy agreements and a variation to the SBC business model, was their right to sublet.

“We really wanted was to make sure that if a smaller university who don’t have enough projects, or maybe they don’t have the band width or the local infrastructure to support renting labs at the SBC or anywhere, but if they’ve got a cracking project which they’d really

like to develop in this way, that we could host them.” (Tech Transfer Manager, Cambridge University)

This need for adaptation is indicative of the nature of a business model that incorporates so many stakeholders, each with their own subsets of stakeholders and own views on what value could or should be created through their engagement with the SBC ecosystem. Certainly close engagement with academia was always important for SBC, and was an agenda driven particularly by one of the three funders, the Wellcome Trust. This current change in the approach to connecting with these two significant academic institutions reflects the collective expertise within the system: SBC was open to new routes to scientific advancement based on the same principles of bringing emergent ideas from university and, now, pre-spinout biotechs, into their ecosystem of tenants, advisors and big pharma networks. The change also reflects the pragmatic approach taken by SBC to its own need to evolve as their situation developed:

“I used to do this in Manchester because we were full all the bloody time, we had to pre incubate, but we used it to say don’t come to the big nice shiny new house, stay in your labs because you’re not ready yet. So you create a business model and you create a process to suit the environment and also, you know, the situation you find yourself in.” (CEO, SBC)

Whilst SBC did have to focus on achieving tenancy targets, in actuality the letting of space within SBC was completed with relative ease. What went on alongside that activity was a drive to foster new connections and if necessary further evolve certain aspects of the business model. This is highlighted by two further opportunities that were identified and exploited as they emerged: 1) an agreement was entered into with GE to place certain high value equipment at SBC, giving GE a ‘Show Lab’ to use for its own demonstration and promotion purposes, and SBC tenants access to this equipment in a very low cost, high convenience way; 2) Johnson and Johnson and Eli Lilly joined SBC as ‘Corporate Members’ of the incubator, giving the twin benefits of providing additional expertise and possible exit routes for existing tenants, and providing evidence for the SBC rhetoric that tenants at this site are free to partner with whoever they like, and are not beholden to GSK in any way.

The flexibility to adapt the business model and incorporate new elements of value creation into the system was indicative of the frequently stated beliefs of the SBC executive team that

they are a startup, a new organisation that is in its early, experimental phase. The CEO employed the phrase “the first task was to prove the concept” for what he was initially aiming to do: anything he, his board or his team identified that could facilitate their delivery of the core conceptual goal – to help the progression of biomedical science from ideas to commercially viable innovation – was open for inclusion into their business model.

The findings considered thus far paint a picture of a business model that seems to have been quite clearly conceived and launched with a sense of shared focus, yet successfully adapted through time. However, concerns have been raised about the sustainability of early management efforts:

“A place like this in its early years tries really hard, and we had a bunch of incredibly high profile speakers for the first session, not quite so much after that, that were only here because of the newness and the excitement and the energy and the growth and the activity of this site.” (SBC tenant)

The argument being made was that the early growth stages place great reliance on the passion and energy of the founders to generate interest in the SBC ecosystem, and they are pulling in all their favours to achieve this. Furthermore, these founders are expending considerable effort within GSK itself to draw out those scientists who have seldom engaged with external biotech firms in any meaningful way. All of this engagement requires effort and the question asked is firstly whether that effort can truly be sustained at this same level, and if it cannot, given the long lead time before there are any real drug discovery success stories coming out of SBC, what patterns of engagement activity will become the norm as the ecosystem settles into some kind of routine.

Another concern is the source of new tenants. The CEO of SBC is clear that any new incubator should not simply exist to poach tenants from elsewhere but should be capable of generating its own ‘dealflow’, and for him one natural start point is ideas exiting GSK. However, the idea that scientists might choose to leave GSK in order to pursue ideas outside of the organisation is not viewed in the same way by everyone: the Head of UK R&D stated clearly that *“That’s not the business model”* when asked about this, while the Global Head of Academic Liaison suggested that *“I would consider that to be a success.”* A more nuanced view came from one DPU head, who pointed out that the changes within GSK now make DPU heads more self-governing and forced to operate much like internal biotechs: they go

through what they colloquially call the “Dragons Den” to secure their internal funding and approve their scientific progress, they operate with tight budgets and small groups of staff, effectively contracting out to specific scientific units within GSK for certain aspects of their work. He has noted that there have been departures, and whilst this is what gave him his own chance to head up a DPU (so he is not complaining, as such) he worries about whether the rate of internal staff development can consistently match the attrition rate of good, experienced scientists and leaders.

Finally there are the concerns expressed by the SBC CEO himself about the changing expectations of the lead stakeholders and the potential impact of those changes on his licence to operate freely. His first three years of ‘prove the concept’ time are coming to an end and now there is pressure to ‘prove’ the success of the project in order to secure funding for the next phases of development – the construction and fit out of the next two buildings. Whilst he has much qualitative evidence to present, the long timescales for drug discovery mean that all indicators of performance are only indicators rather than proof of impact on the long term ecosystemic, job creating, academia connecting goals of the primary stakeholder-investors. Furthermore, he has enjoyed being able to claim that he can relate to start-up tenants because they at SBC are a start-up too, working under pressure with tight budgets, so they can empathise with the challenges people are facing. But with growth comes increased difficulties in servicing an ever-growing group of new and existing tenants in formal and informal ways, the ways that have come to be the norm and currently underpin the emerging culture of open innovation that they are determined to foster. As the SBC management team look outwards to secure growth they are acutely aware of the reduced time they are allocating to the new but possibly still fragile ecosystem they are already building within and around the incubator.

B4.3 Business Models – First Order Analysis

This is the first of three sections of first order analysis, in this case focussing on the business model of the JVO and its wider ecosystem, which will come together to create the narrative that will ultimately answer the research question. The arguments presented in the literature review section suggest that performance management in the current context is intimately linked to both the accountabilities that exist across the ecosystem, and the business models within which they are embedded. It is useful to develop a series of sub-questions that looks at

each of these areas in more detail, and to focus on each of these within the first order analyses:

- Business models – Given the vision and goals of its founders for both themselves and the JVO, How does the JVO set about creating and capturing value for itself and its multiple stakeholders? Is it possible to conceptualise this business model, and provide a clearly articulated, holistic view of total value creation aspirations at the level of the single entity and the wider ecosystem?
- Accountability – Within this business model what relationships exist that generate some forms of performance responsibility, and associated accountabilities? How are these multiple accountabilities manifest, what forms do they take and how are they interconnected?
- Performance management – What systems, whether formal or informal, exist at the firm and ecosystem level to ensure that accountabilities are satisfied? How are these systems used in practice, how are they understood and how are they evolving through time?

In order to understand how value creation takes place in a bioscience incubator it is useful to take a high level, conceptualised view of the roles it might play, with their associated activities and value creation efforts. These roles and activities can be summarised using a three-part typology that divides their work into three areas: *place*-based, *process*-based and *ecosystem*-based activities. These are presented as a series of attention-focussing questions that management might ask themselves:

Place – Can we fill our incubator with good IP-oriented tenants?

Process – Can we deliver an incubation process that identifies and develops great science, to the point of creating real economic and social value?

Ecosystem – Can we refine and replicate our incubation process such that it becomes highly sought after, and facilitates the creation of a vibrant and growing scientific community?

Whilst these three roles are not necessarily mutually exclusive, there is a certain tension between them. For example, too great a focus on generating rental income under a place-type model may encourage the offering of tenancy to those with reliable income streams such as

contract research organisations, rather than those with highly innovative, yet highly risky, new science that is truly in need of the protected environment that an incubator can offer. It might also encourage the incubator management to fill their labs too quickly, with whatever tenants they can find, rather than seeking out those most likely to benefit from their particular process and therefore make a greater long term contribution to science, the economy, and society. Such an approach would effectively underutilise and undervalue the process aspirations of the incubator and reduce the likelihood of developing a viable and thriving ecosystem.

The three funders - government, GSK and Wellcome Trust - have different overarching priorities linked to their own internal goals: respectively the creation of jobs and economic growth, an improved pool of innovations to feed into the drug discovery process, and improved outlets for high quality academic research. Yet there is goal congruity here: the creation of a successful incubator based on open innovation principles, linked to a viable and growing ecosystem of biotech firms. This long term vision requires an approach to value creation that has little to do with short term value capture – the funders, who are also represented on the governing board of the JCO, have very limited interest in place-based metrics. Such income is seen as a hygiene factor, a sustainability issue concerning the viability of the project and its ability to be self-sustaining once it is fully up and running with the right tenant mix, as well as the structures and processes in place to properly support those tenants. This alignment of high level objectives from across the funders significantly reduces tensions between place-based performance as a short term measure of economic success and the process or ecosystem perspectives on success.

This is unusual in business modelling, where generally ‘success’ is ultimately measured by sustained financial performance. Instead we have success defined in the medium term by the level of scientific advancement – the ability of the incubation process to give the right assistance to the properly selected projects, such that good science moves effectively and efficiently through a biotechnology development pathway. Where the science is located at the outset (most likely a university or individual academic), where it migrates to during development (most likely a biotech tenant of the JVO), and where it ends up (most likely a big pharma purchaser) are all part of a value creation process that has at its heart the advancement not of these separate entities, but the science that passes through them on its journey from ideation to patient benefit. The business model must acknowledge that at each stage of this journey the temporary owners and custodians of that science must benefit from

their ownership, such that they will expend valuable resources on its development. Yet the pursuit of economic benefits alone is acknowledged as a dangerous pursuit – value creation must be driven by scientific advancement if recent historic failures at the later stages of drug discovery are to be avoided.

From this medium term goal of establishing a successful value creation system emerges the longer term ecosystem perspective that is based on generating viable long term businesses that ideally wish to remain in the UK and connected to the JVO and its network. This growth requires multiple iterations of the incubation process, with high quality inputs feeding into a constantly improving process and becoming part of an increasingly well connected and capability rich ecosystem. This, in turn, gives the JVO the ability to position itself as an incubator of choice, allowing it to select the best candidate tenants from a widening pool of international scientific talent. In this idealised, self-perpetuating scenario the inputs into the incubation system, and the system itself, are both optimised to give the greatest chance of scientific success and the creation of long term value through either the absorption of that science by big-pharma or the creation of viable businesses on the new science park to be constructed alongside GSK and the JVO.

Thus far the perspective taken on the business model of the JVO has been that of its governing board and funders. This gives an understanding of the medium to long term perspectives on value creation and value capture, based on a macro-view of the collective group of tenants and the science they bring into the ecosystem. However, what this perspective does not elucidate is the micro-perspective on value creation and value capture, as perceived by the individual tenants. For these organisations their presence within the JVO is predicated on the understanding that this will help them to create value through scientific advancement combined with business development. The improved organisational efficiency arising from the business support benefits, combined with scientific efficiency arising from the connections with mentors, GSK consultants or others in the network, gives them the best possible chance of moving forwards before their financial resources run out. For these early stage tenants there is an immediacy to their value capture needs, which in fact must come before value creation in many cases if they are to survive the early stages of incubation.

For tenants who have survived beyond the difficult early stages and have secured sufficient finance to continue their work, value capture decisions become more complex as they determine whether to grow and manage a business or seek an exit route through the sale of their business or its intellectual property. Whilst the long term goals of the founders of the

JVO may not be satisfied specifically by such activities, it is essential that value capture for each individual tenant is a priority of the JVO management if they are to both protect the science that is owned by these companies, and establish themselves as an incubator of choice. A similar argument can be made for peripheral stakeholders, such as the advisors and network of business or scientific support services. In each case any organisation that ‘touches’ some science as it moves through the incubator process needs to draw some benefit in order to remain committed to the longer term ecosystem vision.

A more recent but still very important group of tenants are the academic institutions that have taken space within the incubator under a revised business model for the site that allows them to manage sub-hubs within their own units. Unlike individual scientists who leave academia to establish their biotech startup, these institutions are looking at a portfolio of innovative ideas from within their own domains with a view to identifying what might benefit from being located in the incubator, with access to its support structures. There is institutional value to be gained from this, in the form of potential earnings from IP but also the fulfilment of prior obligations to leverage best value from publicly funded work. However, they are not operating on short timescales with single projects, as they have a mandate for medium term engagement (beyond single projects, but not necessarily through the full lifecycle of science park creation) and the funding to ensure that this takes place.

This blend of long, medium and short term value creation and value capture expectations of different stakeholders creates an interesting mix of accountabilities for the JVO, and the wider ecosystem of interconnected organisations. These are considered in the next section.

B4.4 Systems of Accountability

We know that when organisations come together they need some co-ordination and control mechanisms to guide activity and provide assurance to each other that agreements made will be fulfilled. The creation of the JVO brings with it, therefore, the creation of a system of accountability that span the range of stakeholders, incorporating an array of formal and informal responsibilities and approaches to control at the individual, firm and network level.

The complex picture of stakeholders and potential lines of accountability within SBC, and extending out from SBC, is well illustrated by the following description given by its CEO. This extended quote provides a comprehensive start point for exploring the multiple forms of

accountability embedded within this complex business model, including the timescales involved and the interconnections between different responsibilities.

“There’s no point in talking about return on investment or creation of jobs that’s an aside here because the reason we’ve been given £38 million pounds of money from GSK, Wellcome Trust and Government to build these two buildings is to address a very specific problem in a very difficult market. So the issue is not can you create jobs and have an economic impact, I’m pretty sure Government would like that as an outcome but for me it’s can you keep GSK R&D here in the UK. And remember what’s happened to AstraZeneca and remember what happened to Pfizer, when I arrived within weeks of arriving here. So we’ve got a real problem that we’re trying to address.[...]

Then you look at can you build a cluster and what you’re trying to do here, it’s not just about biotech’s and Pharma it’s a quadrangle that you’re trying to create as an ecosystem. And at one point you’ve got the NHS and academia and then you’ve got investors and then you’ve got Pharma and then you’ve got investors for biotech. [...]

In the UK where academia is very strong, there’s a lot of talk from Government at the moment and research councils and so on about how do you translate that great academic science into a commercial, economic understanding. What does that look in the UK and people are struggling with that a little bit. So if academia’s strong and we’re here as pharma, how can we give a shot in the arm to Biotech. [...]

If the eco-system is academia, Biotech, NHS and Pharma in the UK, how can we boost all of that and really make it something special with the thought that if we’re all working well together, everybody wins. So that’s kind of the philosophy here.” (CEO, SBC)

This description of the underlying rationale for the creation of SBC and the results it is expected to produce highlights the multiple stakeholders that have an interest in its ‘success’ as well as opinions on what that success might look like for themselves and each other. The management team at SBC have long term goals based on the stated desires of their three primary funders: grow biotech in the UK, improve academic engagement with the pharma industry, and create a busy science park with a resultant impact on jobs and economic growth. None of these goals has any particular connection to actual ROI in terms of income generated through rents at the incubator, or subsequent phases of campus development. What they have instead is an overarching requirement to first understand and then develop the

conditions in which the right kind of ecosystem will flourish and ultimately lead to the benefits their key stakeholders are looking for.

The next layer of organisations to be brought in to the ecosystem are the tenants, who initially are intended to be predominantly IP generating, small biotech start-ups emerging either from academia or as spin outs from existing pharma organisations. The accountability to these organisations is both specific – the provision of services under tenancy agreements – and more nebulous – the creation of an open innovation ecosystem within which they can flourish and ultimately create exit routes into big pharma should their innovations prove successful. There is a reciprocal expectation placed on these tenants to be more than mere rent payers, but rather to engage with the community and play an active role in helping it to develop and benefit from improved connectivity.

“So the Chief Exec of the hub said to me ‘you are coming aren’t you?’ And to be honest I wasn’t going to, I was sure I could find other things to do.” (A tenant, talking about an event that he did, in the end, attend)

“So they really bought into this kind of very open kind of collaborative ethos as it were. But the fact that they were kind of briefed in that way by Martino, ‘this is what we’re trying to set up’, that meant that they were and are very neighbourly to whoever arrives as a new tenant. [...] There are a lot of cultural controls in place, to ensure that the right people come here with the right expectations and intentions – they want tenants who will practice open innovation and not shut themselves away. To get new tenants into this mind set they give heavily up front and encourage rapid embedding in the community through this process of generosity of spirit, time and resource.” (Consultant to SBC)

Finally there are the organisations that the CEO of SBC referred to as the glue, the small but vital organisational ingredients in the ecosystem: contract research organisations that provide fledgling tenants with rapid, cost-effective routes to expertise in areas where they do not wish to develop a capability; networks of IP experts, venture capitalists, scientific and business advisors in different forms. All of these organisations provide resources to ensure that they system functions, that biotechs are able to develop both scientifically and as viable business units, and all of whom expect the system to account to them in some way for their contribution. Although SBC may not be accountable to them directly, if they wish for them to engage with the system they are creating and support their ecosystemic goals then they

need to have a sense of accountability to these organisations' requirements, because if not they risk a lack of engagement that could ultimately be harmful to their tenants.

The fact that this complex mix of accountabilities exists and can be articulated clearly and relatively concisely reflects a level of understanding by both the CEO and the board of SBC of the structures and processes they need to put in place with the creation of SBC. A significant aspect of their approach to accountability is evident in the process of tenant selection. Rather than being in a hurry to start generating rental incomes, SBC took a more cautious approach that was based on a desire to select those with not only promising science but also a certain mind set. This became clear to the researcher throughout multiple research visits to the site and conversations with both the CEO of SBC and the Head of UK R&D, who was also a founding and current board member of SBC. They spoke frequently of the need for prospective tenants to 'get it' – they had to have some desire to be part of an open innovation hub, to be open to engagement with each other, with external experts and to buy in to the concept and ideology behind SBC. As the CEO of SBC put it on several occasions (and was clearly part of his standard rhetorical way of describing SBC): *"If their first question is 'what does it cost' then we send them down the road, they clearly don't see the value of coming here, and if all they want is lab space then there are cheaper alternatives down there."* This selective approach is also more formally embedded in their selection criteria, which requires a submission to the board by prospective tenants, which must be approved before they can be offered any space.

This ability to slowly and carefully select tenants that were both a cultural as well as scientific fit with the goals of SBC was facilitated by the relatively relaxed approach to accountability set by the board at the outset.

I know each and every one of my colleagues that are managing incubators in universities have been told here's your money to build, here's a little bit of money to tide you over on the operations, the revenue, now you're on your own, don't come back. What does that mean, they have to fill the space, it's their only source of income, forget quality, fill the space."
(CEO, SBC)

The minimal pressure on the SBC management team to fill the incubator was informed by this knowledge of how high levels of landlord-type accountability at an early stage can affect longer term ambitions. The main criterion was to fill the incubator with the right companies,

and in particular to restrict space available to contract research organisations ('CROs') and other service providers to no more than 25% of the total. However, both during and after the recruitment of a new tenant there are other stakeholder pressures on these newcomers that might conflict with their willingness or ability to engage in the ways anticipated. One person, the lead member of the Scinovo team from GSK that is tasked with offering free initial consultancy to each new tenant, has experience of the various, competing demands:

"What I do see is that many of the academics are very much keen to partner scientifically but they've got their tech transfer office breathing and looking over their shoulder. And it's the tech transfer offices that are the most challenging to work with because they're the people who are keen on making sure the university's protected from an IP perspective.[...]"

I think the tenants here are, perhaps so focussed on their individual company goals and their limited financing that they've got to pursue those goals that they have less spare resource if you like for collaboration.[...]"

We'd like to see more open innovation going on between the tenants here rather than just between GSK and an individual tenant. There's not yet a strong community here helping each other. (Senior Consultant, Scinovo)

What is apparent with academic spinouts from university is a potential for very different approaches to collaboration to be adopted by the scientists themselves and the institution that has supported them thus far. Whilst the scientist may have been grant funded to carry out research they frequently have no ownership rights to IP generated while working for an academic institution. Hence it is the institutions themselves, through tech transfer offices, that are concerned about locating their rights within the accountability system, through more formal IP protection if necessary. However, once those scientists do become fully fledged incubator tenants with their own budgets to manage, the pressure is suddenly on them to be both efficient and effective. Suddenly the short term accountability to their tight budgets, scientific deadlines and then possibly to external funders such as grant awarding bodies or VC's can all take precedence over collaborative activities that are not directly feeding in to their specific objectives. It therefore falls on the SBC management team to foster any new beliefs about the value of a more open approach to business and science by demonstrating, in practice, the notion of 'give to get' – providing significant up-front assistance and paving the way, they hope, for future engagement.

B4.5. Accountability – First Order Analysis

The evidence above gives a wide ranging view of the how the expectations of different actors within the JVO ecosystem might affect the nature of accountability within this system. These accountabilities necessarily correspond to the nature of the business model, with its multi-level focus on value creation activities for individual tenants, investors and the wider goals of regional and national development. Having considered the business model questions in 5.1.1 above, the focus now turns to the sub-questions that looks at accountability:

- **Accountability** – Within this business model, what relationships exist that generate some forms of performance responsibility, and associated accountabilities? How are these multiple accountabilities manifest, what forms do they take and how are they interconnected?

It is important to consider, as stated in the earlier theory section (B2.2.3), what goals or objectives are explicit or implicit in this multi-level view of the JVOs vision and activities, and who accounts to whom for the achievement of these objectives. The accounts that the primary stakeholders – the funders and the tenants - expect of the JVO management are very different and yet at the same time there is a clear indication of goal congruence, albeit across very different timeframes.

Consider the tenants first. The previous analysis of the business model of the JVO identified the value capture activities taking place and how they interacted, from place based through process to ecosystem. In the same way we see individual tenants having very clear place-based expectations of the JVO, in terms of infrastructure and service provision needs, but they also want to be embedded in a place that delivers a successful incubation process. In part this is linked to the place, but being located next to big pharma, or other expertise, does not guarantee that you can connect with them and draw value from those other parts of the ecosystem.

This is where the JVO makes its particular claim about being an open innovation incubator, holding itself out as a creator of networks and shared learning, of knowledge exchange and with this a more effective and efficient incubation process: effective because there is a greater likelihood here, they would claim, of advancing your science because of the wealth of knowledge that you can draw on through the networks, efficient because decisions about how

to proceed, or whether to proceed with different activities can be made more quickly and after the expenditure of less financial resources thanks to both scientific and business guidance from JVO staff and associated advisors. This claim of operating an open innovation incubator is not mere sales rhetoric, however, but something that creates expectations and demands for people to account for their decisions to attend events or engage within the community. The direction of these accountabilities is not only from tenants expecting the JVO managers and funding organisations to deliver upon their promises of networked support. In fact, to some extent it may be that tenants are so resource constrained in terms of time and attention that the uncertain advances that come from community engagement make it a low priority for them. In fact it is the expectations from organisations and individuals who create and support the community that are equally powerful: GSK consultants expecting tenants to demonstrate their community engagement, or the CEO seeking verbal accounts of assurance from tenants that they will engage with each other and the wider ecosystem, not only when interviewing them prior to them taking up tenancy, but on an ongoing basis.

This sense of reciprocal accountability when dealing with the potential benefits arising from being part of a co-located, highly communicative and increasingly interconnected system can be more clearly understood when separated into its direct and indirect components. Tenants arrive at the JVO with a limited capabilities and resources. They have expectations, under their contract with the JVO, that assistance will be given to access those capabilities and resources from either the JVO itself (for example, by using the provided laboratories or taking advice from the CEO or Entrepreneur in Residence) or from those it claims able to connect them to (for example, subject area experts within GSK). These are the direct benefits that tenants perceive can have an immediate and clear impact on their success.

Addressing the accountability to the funders and long term stakeholders in the JVO requires a different perspective, considering a much more indirect route to value creation and capture. Their desire to see long term ecosystem growth is based on a belief that the principles of open innovation are a key component of success for this venture. The engagement activities for any one tenant with other tenants, or with the wider scientific community that the JVO wants to bring to the site through conferences and events, are part of this broad open innovation mandate. For the JVO funders and managers this is seen as the route to long term value creation and this is where the accountability with tenants is reversed: JVO management expect tenants to help them develop this community and this open innovation culture, where scientists seek ideas, expertise or simply opportunities to network

outside of their organisations. They expect them to share knowledge actively, not necessarily IP-based knowledge but much more of the tacit knowledge that is developed through the many activities of the entrepreneurial start-up. There is goal congruence between these direct and indirect uses of the network, provided that the JVO managers do not make excessive demands for community engagement that present unclear opportunities for future value creation for individual tenants.

B4.6 Performance Measurement and Management

In this section the performance management of the JVO is explored from the perspective of its management, different actors within the ecosystem, and a broader view based on wider definitions of management control. To gain an understanding of these different perspectives it was important to ask very open questions on this topic, and leave respondents free to talk about their understandings of what performance means, how it might be measured and then how it is, could, or should be managed. The subsections below bring together different themes within the wide array of answers. These are very much influenced by the three areas discussed above: the founding visions and rationales for creation of the JVOs, the business model they have adopted and adapted, and finally the people and organisations embedded within that business model with whom there are accountable relations. Following these rather disconnected views of performance management is a first order analysis, which draws together the main themes and connects these to the literature on this topic as discussed in section 2.2.2 above.

- **Long term ecosystem success** – When discussing performance some interviewees moved to a discussion about long term performance, incorporating the ultimate goals and broad aspirations of the founding stakeholders and senior management of SBC. They also acknowledged the challenge of demonstrating SBC’s direct role in delivering on these goals:

“You know, the measure of success I think will be a very vibrant environment that everybody knows about, you know, so sort of Stevenage is on the map as far as a biotech cluster. Of course that will take a few years to build [...] So the ultimate success measure for us would be successful biotech’s that we grow. Equally we’re happy to see some that don’t grow and fail. .” (Head of UK R&D, GSK)

“I talk about the question of attribution as well, you know, you might record that the tenants as a whole acquired, whatever it is £5 million of investment funding in the past year, and how much of that would they have got anyway if they were somewhere else. The numbers tell you so much but they never tell you everything.” (Consultant to SBC)

- **SBC target setting and achievement** – The initial management control system of SBC included the use of some metrics, which provide measurable guidance to management on the speed of tenant recruitment and type of tenants allowed.

“We’re filling up at a rate of knots and we’ve exceeded our target for 40% by the end of April and we’re going to be at 80%/90% in here and it’s going to be in a kind of IP research biotech companies that we want.” (CEO, SBC)

“The KPI’s part in that report is only very brief but I think there are the kind of, the obvious measures I think in terms of, from GSK’s point of view, in terms of how many tenants do we acquire that are of high quality” (Consultant to SBC)

- **Impact of the vision on short term goals** – Some respondents focussed on their general belief about what needs to be done to give SBC the right start. The incongruity of longer term ecosystem creating intentions and short term rental income generation is apparently well understood, but the ability to create meaningful targets in either the short or long term is a challenge.

“I mean any incubator whoever’s funded it, however it’s there, it’s very difficult to make very much money on them because by definition your tenants are at the unstable end of your spectrum, they don’t have a lot of cash, they don’t want to sign up for three years that would give you some financial security, you know, its short term contracts, businesses that may fail or succeed.” (Consultant to SBC)

“I always argued that there should be no investment from property developers, and I think that now this has become clear.” (CEO, SBC)

“First stage for me is prove the market, so prove you know what you’re doing, seriously! And that’s me saying it to me. You know I’m used to being on other people’s Boards, so I’d be saying to the CEO don’t be running ahead of yourself here, put the building blocks in place, show that you’re bringing quality IP based research companies who get it” (CEO, SBC)

“There is [a long term value capture plan] but they can’t define it.” (Consultant to SBC)

- **Managing and measuring Open Innovation** – The topic of how to measure and manage open innovation activity surfaces frequently. The comments made on this topic are broad in their consideration of what activity is important and how it might be managed, from tenant selection and engagement through to the reporting of their activity and the evolution of the system as a whole.

“I think the people who’ve come here come with an openness that says I will stop to talk to somebody I’ve not seen on the stairs. You know I will, you know, if you like, everyone’s come with, it’s almost like a new town, you know we want to make it work.” (SBC tenant).

“There’s a lot of giving, there’s a lot you get up front from ourselves and it’s how you can, how we see you’ll be able to give back I suppose to the community in the future.” (Business Development Manager, SBC)

“So it’s the number of, if you think of it as a semi permeable membrane and you see how many people go across and back, across and back and round, and if you have, what you don’t want is service providers in here, you won’t find any service providers, you want innovative young companies who can run quickly with a technology, we’d like the licence from them, or hopefully one of our competitors will licence from them and we’ll all work with them, we’ll all licence from them or one of us will buy them. And then there’ll be another one.” (Global Head of Academic Liaison, GSK)

“...measures that also make sense in terms of just being an open innovation environment and how do we measure that and, or something like that question of, you know, asking tenants ‘typically in a month how many people do you just talk to that you haven’t spoken to before’ sort of thing, you know, that kind of thing that can help to indicate how neighbourly things are...” (Consultant to SBC)

- **Developing the control system** – The consultant advising SBC on performance management has a remit to continue to develop a reporting approach that connects a wide range of data sources, short term operational requirements and longer term aspirations. Her answers illustrate the complexity of this task and the ongoing work in developing a

performance management approach that incorporates the qualitative judgements of a wide mix of stakeholders.

“[we need] some measures that make sense to GSK in terms of you know as we were talking earlier what they are going to get out of it eventually but measures that also make sense in terms of just being an open innovation environment and how do we measure that and... Or something like that question of you know asking tenants typically in a month how many people do you just talk to that you haven't spoken to before sort of thing, you know, that kind of thing that can help to indicate how neighbourly things are still being alongside the harder measures in terms of how much grant or investment income have you had in the past year or what kind of milestones in your business plan have you met.”
[...]

“So the next stage after this report is some kind of workshop that'll do if, you know, some people from GSK, some of the tenants, some of the SBC team where we've picked maybe kind of three or four general topics from within that report and look at what, what actually should we be doing in terms of day to day or week to week activities that makes some of this happen.”

“the idea is expanding that list, put together a plan that includes some kind of online survey that tenants would do once a year so that they get the answers from them about you know their business success so far or how confident they feel about SBC giving them what they want and what kind of experiences they've had there, but they're hard measures as well. And then some other things that you can't do by survey you know it might be more case studies, it might be opinions from GSK or stakeholders or tenants or whoever.” (Consultant to SBC)

- **Cultural controls** – A wide array of cultural controls are discussed, with some but not all being identified as actual controls by the interview respondents. The origins and targets of these controls illustrate some of the broader aspirations of some respondents for ecosystem behaviour change amongst the scientific community both within and without SBC. They also show an understanding of the risks inherent in cultural controls being an important part of a control system when the broader ecosystem is growing and changing.

“I think we want to make it work for ourselves and each other but we also want to make it work for the SBC folks and Martino because he’s a great leader if you like. And I think we almost look to him as a leader so.” (SBC tenant)

“Well obviously yes any culture like that is fragile and that’s something we need to kind of build on through the workshop that follows and everything else is the fact that I do say it’s very good culture in terms of tenants, not just talking to each other but helping each other pro bono in a lot of ways. But you know that can change overnight, it could change as a result of the new building being occupied you know that changes the dynamic or if we built more buildings.” (Consultant to SBC)

In addition to interview data the internal reporting documents of SBC were also made available to the researchers. The primary means of formal control through the governance systems of the organisation are a quarterly report for the board, which consists of just four members, so that they may scrutinise success in attracting tenants, in achieving the correct tenant mix, and in carrying out various internal and external engagement activities as well as promotional activities.

The researchers also attended the annual Open Innovation Summits, being the flagship event held by SBC each year with an audience in the region of 200 people from different parts of the biotechnology drug discovery community. Of particular interest here was the reporting from the SBC Consultant, which highlighted very broad brush figures about the funds raised by tenants as a measure of how investable, and therefore credible, their scientific advances were. Pride was placed in the fact that their initial target, as shown on the archetypal “funds raised thermometer” on display in the SBC reception area, was exceeded so rapidly that they had to recreate it with more challenging targets. However, there was also an open acknowledgement that finding metrics to measure open innovation was very difficult, and the consultant even asked the audience – at both the January 2014 and January 2015 events – if they had any ideas that they could share with SBC on this topic.

B4.7 Performance Management - First Order Analysis

This first order analysis aims to develop some answers to the following questions, being the final set of sub-questions dealing with the study of business models, accountability and performance management:

- Performance management – What systems, whether formal or informal, exist at the firm and ecosystem level to ensure that accountabilities are satisfied? How are these systems used in practice, how are they understood and how are they evolving through time?

Making sense of this large volume of control-related data can start by focussing initially on the vision of the JVO and its connection to strategy formulation and the setting of objectives and performance management approaches, essentially following the initial framework for inquiry offered by Ferreira and Otley (2009). This can be achieved by looking at the data in 4.5.4 above, along with the findings relating to the creation of the JVO shown in section 4.5.1. In doing so we see how inseparable the higher-order activities of vision, strategy and objectives setting are from the agendas and visions of the three main funder-stakeholders.

The JVO Vision is expressed in many ways based on the desires of different stakeholders, but these integrate and align to create one core vision: To create a place where scientists not only have a better chance of developing new ideas that they bring here from universities or commercial spinouts, but that the ways of working are far more open, collaborative and knowledge-seeking than might have been the case in other locations, or within GSK itself. Behind this vision lie more specific individual agendas – a government desire to retain large scale pharma activity and innovation in the UK to protect jobs and investment, a desire from Wellcome Trust to get more ideas out of universities and see them partnering more with pharma firms, and an acknowledgement from GSK that they need to do this to secure their long term drug discovery pipeline. In short this is a vision about industry success, not about either the individual successes of the founders and investors or about the JVO they establish actually turning a profit or making any significant financial return. This is important as it then determines the strategy for the JVO and in particular what “success” looks like for SBC and its management group.

The JVO Strategy is very much driven by the vision of the founders – something that may seem rather obvious in theory but in practice may not always be so evident in an organisation. This close connection is supported by the governance arrangements, with the board consisting of two dedicated JVO appointees, the CEO and CFO (who worked at GSK previously and was only a secondee to the JVO for the first two years), whilst the other three

are from the founding organisations. This ensures that there is a constant link between the single-organisation strategizing and objective setting process of the JVO, and the wider vision as it connects to the agendas of these external agents. The strategy is aligned to the vision as much by what it determines to exclude from JVO activities, as by what it wishes to include. The focus is on the collaborative development of good science, based on a strategy that aims to locate possible partners or sources, relocate them to the incubator as corporate partners or startup tenants, then support them through a process of growth with both business and scientific support. The focus is explicitly not related to income generation directly from the SBC incubator, but rather on efficient operations with a long term focus on ecosystem growth – being the system of tenants inside the JVO, the external organisations it connects to, and the science that eventually emerges either as standalone biotechs or IP that can be purchased by big-pharma for further development. One step taken to ensure that there was no risk of short-term landlord-type performance measures becoming a key factor was taken by the CEO, who suggested to the other stakeholders that no investment should come into the incubator from property developers. His view was that their vision would not be aligned to the other three investors and this might flow down in to conflicting strategic priorities.

The JVO Objectives and performance measures reflect the experimental and not-for-profit nature of this venture. Since all of the investors were aware that this was essentially an attempt to try a new approach to bringing new ways of incubating to bioscience in the UK, they were also aware that it would be hard to measure outputs in the same way as might be possible in a purely for-profit incubator / science park setup. They needed some targets for how quickly tenants would be found, to incentivise management and allow for planning and budgeting, but the speed of acquisition had to be balanced against the desire to only invite tenants with good science to be based there. Since this incubator would not be profit making, but would measure itself on its ability to grow and improve science-oriented companies, it needed tenants that were predominantly IP generating rather than service companies, and with initial ideas good enough to give a fair chance of success. It would be hard for the CEO to “prove the market” as he regularly claims is the essential first stage in his work, if they did not carefully assess prospective tenants. In the end the unique offering that they perceived they had, with close proximity to a large pharma organisation and a range of support services on offer to tenants, was sufficient to attract significant interest and ensure that they easily achieved occupation targets.

The one aspect of the strategy that proved more difficult to set objectives for, or develop metrics for, was the desire to be an open innovation hub. Measures of open innovation were proving significantly more difficult to find: The consultant charged with developing the performance management approach for SBC even asked the audience at two successive annual conferences whether anyone had ideas on how this could be measured in a place like SBC. They settled for qualitative audits, backed up with basic survey data about how often people interacted with other tenants (for example), and combined this with a more intuitive approach based on the regular interactions between the small management team and tenants. They also maintain an operation focus on activities that they felt supported interaction, such as their tenant lunches every month where the entire group were invited (and most attended) to a lunch that included some short presentations of ideas or developments by different tenants. This allowed SBC to keep their collective “finger on the pulse” of expectations and behaviours, at least while the number of tenants remained relatively small.

Control of the Ecosystem

For SBC to achieve its objectives it is clear at this point that the control system must somehow branch out and become a system of influence that spans multiple organisations. Making sense of this system of control requires us to look beyond the Framework and consider how the different actors within the system are brought together, connected to each other and influenced to take actions that are for the benefit of not only themselves but also the collective, or the JVO as the central organisation. To understand how this aspect of control works we draw upon three interconnected ideas – that of clan control (Ouchi, 1980), of the ways of communicating and rationalising that allow the clan to function (Broadbent & Laughlin, 2009), and the levers of control (Simons, 1995) utilised by the JVO to help with their clan-oriented activities. Looking at levers of control also allows us to identify life cycle limitations for the clan that need to be addressed as the JVO expands.

The idea that some form of clan exists at SBC, one that is deliberately fostered by the management team, is relatively unsurprising in an environment where the notion of collective benefits through open innovation are very much the mantra of the main stakeholders. What is of note is the fact that clan control appears to be highly effective at managing the connecting and co-working activities of tenants, and in particular ensuring that they take an outward-facing view of organisational development that is reliant on a high level of engagement with

multiple external experts and informal networks. To understand how the notion of an SBC clan came into existence we can consider the initial development of SBC, how it came into being, in relation to the core principles that underpin the existence of clan control: goal congruence, low formal structure, and high levels of socialisation into behavioural norms. The vision came from within GSK and was shared by the other two partners, then a CEO was found whose wealth of experience and sense of belief in the vision matched that of the founding stakeholders. The CEO was embedded within GSK while the organisation and its physical location were constructed, giving him an extended period of time to understand and be socialised into the culture of his host.

He then assembles a small management team around himself, people who share his vision and can work in an entrepreneurial way as a small team looking to operationalise these open innovation oriented goals. Throughout this time the umbilical link to the founders remains not only intact but strong – they form the very small (just 4 member) board along with the CEO and have influence over all major decisions. Of particular interest is the decision making about how the clan is extended.

Extending the clan means, in this context, bringing tenants in to the incubator, or new partners and corporate members. The board and the CEO have a common view that new tenants need to “get it”: they must understand and buy-into the open innovation aspirations and ecosystem creating vision of SBC if they want to be part of it. This is assessed in their first meetings, and the expectation to engage is repeated over time, in different, albeit informal, ways. Furthermore, the first tenant was a CRO, a service company whose CEO was very much aligned to this vision and helped SBC to enculture new arrivals as they came into residence and took up their lab space. The existence of monthly tenant lunches from very early on in the life of SBC, where ideas about research, management and other areas of interest were discussed and short presentations were given, helped to show new tenants what behaviours were the norm in this environment. The up-front provision of high value, free support by GSK and the Entrepreneur in residence all added to the feeling of a sharing, nurturing environment where the expectation was that groups would support each other and follow the leadership of the CEO of SBC, who exemplified what it was to be a good open innovator. In relation to the wider recruitment of corporate partners, we see that with GE the provision of their equipment was tied to it being freely available to tenants but also for GE to use as a show lab that would then attract others from their network of customers. This exemplifies the desire to increase cross-connectivity with every new addition.

Next, we need to consider the wider context, and how it allowed the creation of a successful clan control system for open innovation. The Conceptual Model (Broadbent & Laughlin, 2009) provides a way of approaching this. This model highlights the importance of shared modes of rationality in the creation of a coherent system of control, and in the literature review above it is argued that there is much overlap between the rationalities that underpin a more relational system and the core elements of clan control theory. In particular the activities that create shared rationalities amongst life-scientists in different organisations are the same as those that act to bind them together as a clan: taken as a group these scientists are frequently value-driven in terms of their combined desire to explore new scientific frontiers, and to do so for the benefit of society and health.

The connections across this group of individuals, whichever part of the ecosystem they sit within (academia, big-pharma, biotech, SBC management), are many: their origins lie in a shared education and set of formative experiences through (usually) at least seven years in a biology or chemistry department in a major UK university. By the time they emerge with a PhD their ways of thinking, problem solving, talking and making sense of their scientific world are very much aligned – not necessarily identical but certainly with a great many commonalities. Experimentation, the scientific method, and the relating of all decision making back to a focus on the advancement science create a strong shared platform of understanding about how the world works and how to determine future actions. The final acts of selection and enculturation into the open innovation expectations of the community are applications of, respectively, boundary and belief systems (Simons, 1995) within the ecosystem. The belief system in particular is embedded not only in the ways in which tenants are selected and admitted, but also in multiple material artefacts – the logo and signage, the ways in which spaces are designed and shared facilities are developed to encourage interaction and the proliferation of meaningful scientific and business-oriented networks.

In conclusion, it is possible to see how the presence of a strong guiding coalition within the stakeholders of SBC can, through processes of employee selection, enculturation, and empowerment, sew the seed for a powerful form of clan control to take root. The continuous connection to the value-laden core of the clan through the CEO means that as new tenants are added incrementally they will be selected according to clan norms, and socialised into clan behaviours as fully as possible. This places a significant burden on the small management team of SBC, which, in the absence of formal controls or clear objectives for open innovation in particular, means that these individuals and their strongly held beliefs are a vital and

integral part of the control system of SBC. The powerful personality of the CEO himself, his central role in selecting and integrating tenants into the community, his ability to link to the people and culture of GSK, which is both a primary partner and a fundamental part of the JVO offering, all come together to make him personally central to the clan control system that permeates the ecosystem. Without the strength of the values he espouses it is possible that a disconnect could begin to open up between the individual-firm focussed role of the JVO as an incubator, and the wider role that responds to its vision of creating an open innovation community. The challenge for an organisation such as this, which is aspiring to extend into a second building and then beyond into a wider science park, is how to retain the same level of control when operational scale makes the essential socialising bonds harder to create and retain, as the CEOs influence becomes spread ever more thinly across a growing ecosystem.

B5 Discussion

This Part B of the thesis set out to address the following research question: how is performance understood and managed within a network incubator JVO? In this discussion section we address this question by describing the theoretical ideas developed from this case, followed immediately by the ways in which these were discussed at a feedback meeting with the JVO senior management. This offers both the researcher's own perspective and then the responses from management that act to validate, develop or challenge the proposed ideas. Following this, a section of post-feedback discussion is presented with ideas developed from the final analyses of all data, including notes from the feedback session.

Given the complexity of the setting, the multiple stakeholders and the experimental design of the organisation it was deemed useful to develop provisional ideas relating to the research question and subject them to the scrutiny of the JVOs management team. This was the purpose of a feedback encounter that took place some six months after final data collection, to allow time for the coding and analysing of the data.

As described in the methodology section, the feedback half-day was held at the offices of the JVO, and incorporated a mix of informal and formal elements, including extended time for discussion and debate. The aims of the session were clarified and agreed at the outset as being threefold: 1) to provide external insights that might be useful to the organisation, 2) to receive critique on those insights that might be useful as a form of validation or correction of

provisional research outcomes, and 3) to jointly determine areas of specific interest for further inquiry and ongoing research activity. Establishing this shared understanding of the purpose of the encounter, combined with the pre-existence of a good relationship between the parties, ensured that the process would not be hampered by excessive politeness or an unwillingness to engage. Indeed, at the outset the CEO declared quite bluntly that they would gladly listen to the ideas presented and engage in discussions but with no expectations placed on either party: if they felt that the ideas or prospect of future research were of no value to them we would “shake hands and walk away” after this meeting. The theoretical ideas presented here are founded on the ideas presented at that encounter, and link to the findings and first order analysis as follows:

1. The first part considers the creation of the JVO, its underpinning vision and rationale for existence, and the business model that has been adopted for itself and the wider ecosystem it is trying to foster.
2. The second part looks more closely at the systems of accountability in existence, the current control issues being faced, and the lifecycle challenges of control system design.
3. The third part offered more practical ideas for consideration as they develop their performance management approach, which builds on the combined first order analyses as the approach to performance management is linked to the business model and accountability requirements.

B5.1 JVO Vision, Rationale for Existence, and Business Model

The popular business models literature has thrived thanks to its ability to create easy-to-use visual models that help people to explain and explore business models, as exemplified by the success of the business model canvas (Osterwalder & Pigneur, 2010). Whilst this model and the RCOV Framework (Demil & Lecocq, 2010) offer parsimonious views of the interactions between value creating, distributing and capturing activities they do so with a focus on value in a financial sense, and on analysis centred on a single firm. Similarly the balanced scorecard (Kaplan & Norton, 1996) whilst typically being categorised as a performance management rather than business modelling tool, shows the route to financial value creation

through the structuring and management of different value creation and capture activities that reflect the broad range of organisational decisions that must be taken within a single firm.

In the case of the JVO encountered in this study all of these models failed to provide an easily adapted framework for business modelling, a point made at the feedback interview by the researcher when alternative models were presented (see figures 4 and 5 below). The consultant agreed vociferously – she had in fact tried to apply the balanced scorecard and the business model canvas herself and found them to be problematic and unable to contend with the nature of the organisation and its wider ecosystem ambitions. There was therefore considerable interest in the alternative modelling approaches presented as part of this research, in the form of the two models shown below.

Figure 4: Vision-based Business Model Conceptualisation

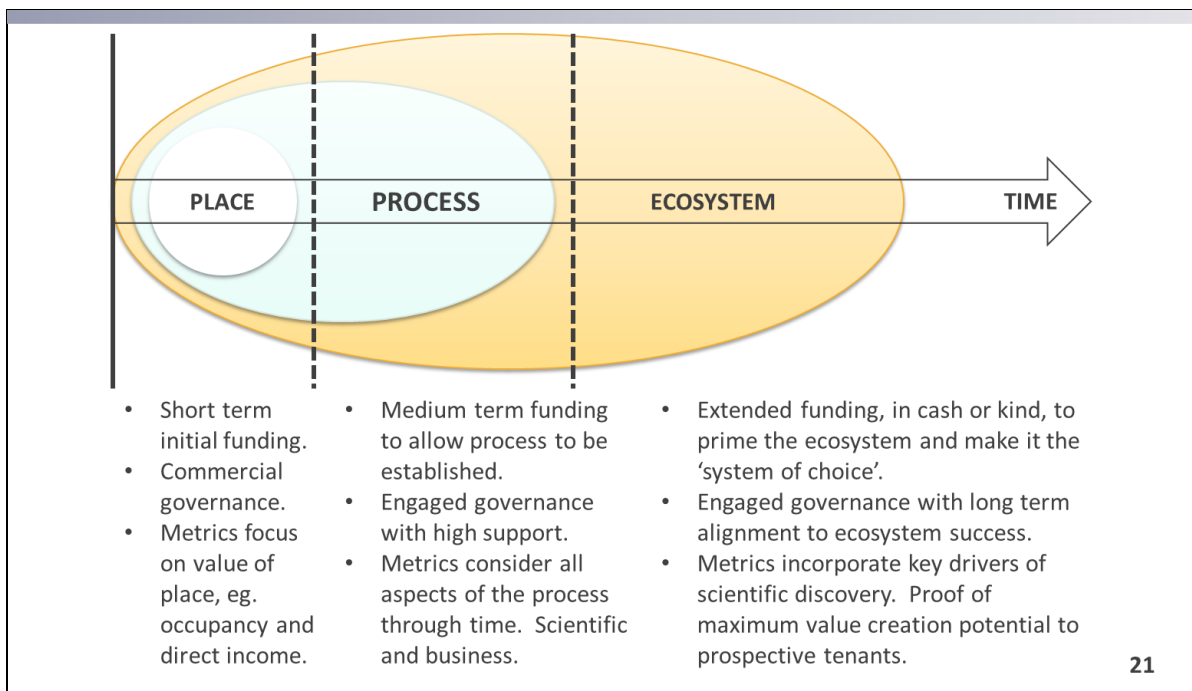


Figure 5: Science-Centred Incubation Business Model

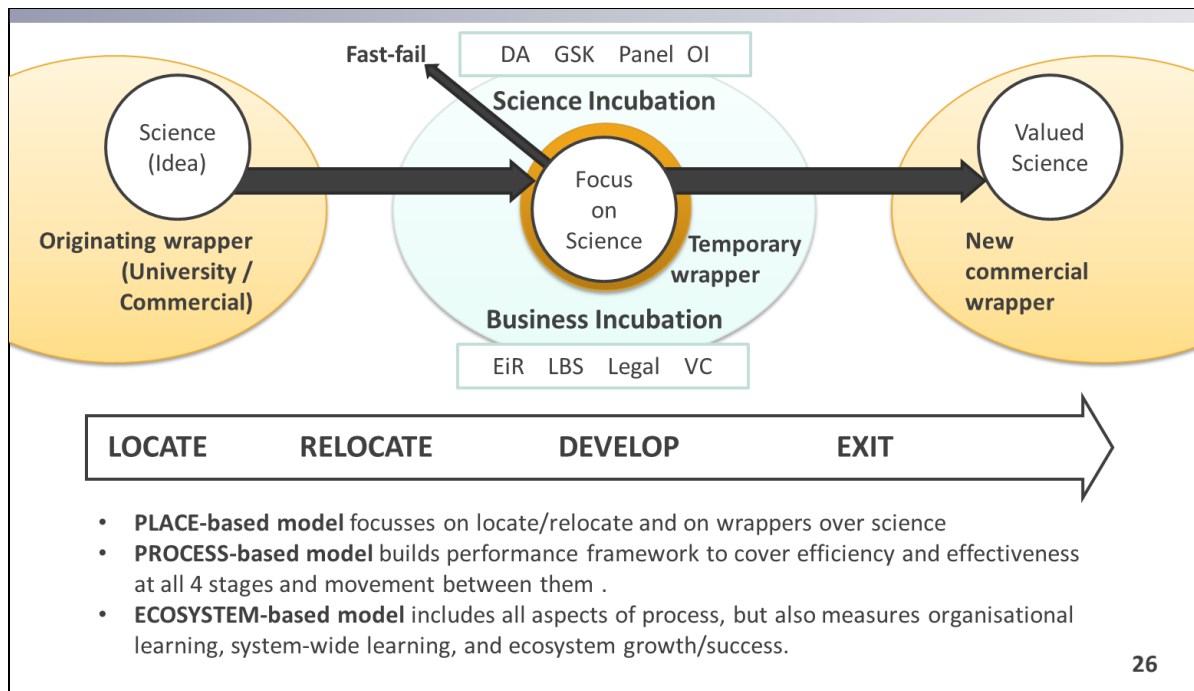


Figure 4 draws particular attention to different perspectives on what any incubator exists to achieve, as defined by, and linked to, its vision, mission and approach to strategy development arising therefrom. The suggestion in this model is that there exists a dominant view of incubators in the UK, based on evidence collected here at SBC, that is place-based: incubation is largely about providing a physical location, and this is the focal point of value creation for the investors. The alternatives to this were extensions that supported firstly the medium term objectives of founders to create good science and an efficient science development process; then beyond this the idea that an ecosystemic view of an incubator requires attention to be paid to long term process improvement, the accumulation of businesses and expertise centred on this incubator, and ultimately its location at the heart of the “ecosystem of choice” for future scientists looking to spin out their own ideas as start-ups in an incubator.

This model sparked animated discussion about the USP of this particular location. The CEO in particular was determined in his desire to not become “just another price per square foot science park” that has to fill its space and generate rent, with no concern for quality of science as long as rent was being paid. Furthermore, the CEO asserted that it would have been very easy to achieve success on that level, because so many equipment manufacturers or contract research organisations wanted to be close to GSK, but if he had filled with them he’d

have been fired, he claimed. Place based performance was important only in so far as they had to show occupancy levels of the right kinds of companies, and an income stream that was sufficient to cover some, but not all, costs.

The outer ring of figure 4 was described by the CEO as the main and only interest of government. While all stakeholders want a strengthened pipeline of biotechs coming through the incubation process, he suggested that for government success only really happens when they have a vibrant science park that makes a significant contribution to employment, business growth, rates payments and the economy at large.

What was then discussed was the need to extend the model at figure 4 because it did not capture the current focus of the organisation on what they term “Convergence”. Their view is that they are now looking carefully not only on connecting what they term ‘the usual suspects’ but also seeking unusual links to scientists and organisations who work in different domains, such as engineering or ICT. This convergence of technologies in the search for new ways to prevent and treat disease, and promote wellness, is seen by the SBC management team as the next area of importance for bioscience incubation to focus on. With their aspirations set high in terms of the scale and scope of the eventual science park they wish to build on this site, the notion of convergence is being talked into existence repeatedly and already a handful of related academics have attended or spoken at their bioscience annual summit event.

Figure 5 gives a more detailed, processual view of how the business model of the JVO can be imagined and understood, and what the implications are for their approach to performance management if the model is accurate. The premise behind this view of the JVO is that, since performance is not focussed on financial outcomes but rather on scientific ones, then the business model needs to be focussed on science too. In particular, rather than trying to trace the flows of value in financial terms, the model needs to trace the ways in which scientific ‘value’ is identified, created, captured and distributed. The model achieves this by placing a notional unit of scientific knowledge as its central feature, with this knowledge flowing through different organisations that must each play their part in its advancement. These organisations form protective wrappers, nurturing the science until such time as it is ready to move on. The JVO plays a role in supporting the activities of these wrapper organisations, but only in so far as they are aligned to the goal of developing the science itself.

This model generated considerable interest amongst all three participants in the feedback session. Certain particular features were commented on as being of significant importance: the notion of wrappers was identified by the consultant as a term well understood in investment circles and offering an ideal description of the protective and yet temporary nature of the different organisations that own a new piece of intellectual property; the specific stating of “relocation” as an activity was identified by the business development manager as being initially concerning for her, but on reflection actually highlighted their pre-incubation and selection activities that helped them to ensure that once someone became a tenant, they had a better chance of success; the overall focus on scientific advancement and the clear identification of the activities that they believe deliver their unique value proposition – the business and scientific incubation support services – were highlights for the CEO. Ultimately the CEO was extremely enamoured with this model of their business, and wanted to both purchase the rights to use it, and obtain copies of the slide deck so that they could convert it to an infographic for their website in due course. He also referred to it multiple times in later conversations, in both this meeting and subsequent meetings, and some of the terminology about having a “science-centred business model” made its way into his choice of language when talking about SBC at a future public event (attended by the lead researcher).

The three bullet points of text at the bottom of figure 5 are important in that they connect the vision-based figure 4 with the focus of activity and performance management required when dealing with the process-based figure 5. With a place-based vision the locate-relocate aspects of the business model become paramount, whilst a process-based vision requires attention to all elements. The ecosystem-based vision is a little more complex as it is based on multiple iterations of the process model that generate both process improvements and ecosystemic growth and success, arising from both the outputs of the process and external perceptions of the process that act to attract further investment in this location.

B5.2 Accountability System Evolution

The theoretical contribution from part 1 of this thesis that addresses the creation of a system of accountability that spans a collaborative venture is now important as we seek to understand the controls in place, and the control tensions that exist, with this JVO.

In part 1 it was suggested that any collaborative system of accountability has some inherent tensions in it as the boundary spanning individuals from separate organisations come together to negotiate the ways of working, managing and controlling the new entity. They

must each ensure that whatever is adopted in the JVO is acceptable to their own senior management teams while considering both the separate nature of the JVO and the various control-oriented agendas of their partners; They must temper any desire to construct a system that conforms to the normalised accountability systems of their own organisation alone.

With the construction of SBC and the initial period that the CFO describes as being experimental, the pressure to conform to any particular accountability norms was minimal. In these early stages of the SBC lifecycle the lack of formalised control systems in place is paired with a clan-like approach to attracting and assimilating new members into the incubator setting. Using the Levers of Control Framework (Simons, 1995) to give a way of describing the existing approach, the system in place showed a major reliance on the top half of the model:

- Belief systems based on espoused ways of working, enculturation, and the holding in abeyance of potential performance pressure from stakeholders while “the experiment” of setting this place up could be given time to show its potential.
- Boundary systems firmly set in relation to the science being brought in to the incubator, where the companies were all carefully vetted, and a mandate from funders that IP-generating companies needed to represent over 75% of the tenants.

However, there was pressure for this to change, and the discussion that took place as these slides were presented highlighted the strength of the demands being placed on the CEO to affect such change. This change would need to incorporate a shift towards the bottom half of the Levers model, with a greater emphasis on diagnostics, on specific use of KPIs, and of more clearly defined measures linked to the strategic priority of open innovation in particular. The reasons for such a change, and the challenges that it placed on the CEO in terms of the recreation of the accountability system, were presented and discussed.

Firstly, to understand the reasons for the change in emphasis we can look at the shifting position of the most influential stakeholder, GSK. Having been the source of the original idea for this JVO, the provider of land, and nearest geographic neighbour offering considerable services and support to SBC and its tenants, it is unsurprising to learn that changes *within GSK*, and in particular with those people acting as boundary spanners *linking to GSK*, have a significant impact on accountability. Consider the normalised accountability of GSK first - control systems are highly developed and formalised, with all scientific activity being carefully costed and subject to budget scrutiny. Any kind of drug discovery activity goes through rigorous review processes before costs are sanctioned and teams are free to then

take action, within the boundaries set. For GSK the investment in SBC was experimental in that they never expected to generate returns, but wanted to see if such a venture could “make a difference” to the advancement of science and the growth of an ecosystem. Now, after three years of activity, with all space occupied and the management team settled in, this powerful stakeholder wants to get a better understanding of the performance of this venture. This is increasingly important now, as the JVO begins to put together its plans for the next two new buildings that represent Phase 2 of the overall SBC and science park scheme.

The particular challenge highlighted by the researcher was that of maintaining the correct stakeholder balance in any changing collaborative system of accountability. On formation of the JVO one important but as yet non-existent stakeholder group was the tenants who would fill the building, and whose science would justify the very existence of the JVO. The needs and desires of this group were designed into the formation of the organisation, and their enrolment as tenants allowed continuous interaction to help inform the gradual development of the tenant offer. While control remains in its current, primarily clan based form, with frequent, rich exchanges of knowledge, opinion, and experiences, it is much easier for the management team to stay ‘in tune’ with these stakeholders and represent their demands within the overall accountability system. However, any shift to formalisation based on the needs of a primary institution, in this case GSK, places the CEO and his team under pressure to favour certain forms of reporting, and possibly then certain types of behaviours. The potential effect of this is a shift in emphasis and culture within the JVO, away from relationally oriented managerial practices towards more transactional approaches, guided by the reporting expectations and greater demands for technical accounting imposed by the large investors. This, in turn, creates the risk of disrupting or destroying the current, highly social and very effective clan-forming and clan managing approach to control.

One possible approach to systems development and formalisation discussed at the meeting was to find ways to more clearly analyse and understand what the clan-based control system actually does, what behaviours they are trying to reinforce through the cultural controls in place. The goal would be to ensure that any diagnostic system being developed would be as representative as possible of the existing controls, without allowing any radical shift to measurement only of certain, specific items that in themselves do not capture the complexity of the activities and control systems that now exists. This shift in the discussion to more practical performance management ideas, which address the middle order questions in the Framework hierarchy (Ferreira & Otley, 2009), are discussed below.

B5.3 Performance Management in practice

Throughout the research project it was clear that the JVO had very limited formal performance management metrics in place to guide any kind of systematic, comparable performance management approach. A heavy reliance on qualitative data in the form of consultant-led reports, and direct feedback through tenant interactions, was used to provide reassurance to the management team that they were ‘doing the right things’ whilst the few quantitative measures in place offered further reassurance. These quantitative measures focussed on two things – the first being the percentage of tenants that were genuinely IP generating companies (required to be at least 75% of the total), the second being the total amount of external monies fundraised by tenants through grants or venture capital. This second measure was one that the JVO was especially proud of, having seen their tenants raise significantly more money than the target they had posted on a giant thermometer in their reception area, and more than the combined tenants in other incubators over the same period of time. This external funding is seen as a form of independent validation of the quality of the businesses, and the science under development.

It was clear from the interviews that there was a desire for greater systematisation and formalising of metrics, but that this had proven challenging in practice. An example approach was therefore offered that links the two business models presented (discussed above), and draws in some basic elements of KPI design, as show in the slide below:

Figure 6: Incubation Business models and Metrics for Open Innovation



The first two KPI types are relatively standard, in that the suggestion is that they need to consider ways of identifying leading and lagging indicators for all activities within their business model. The third, 'Learn', was presented as a natural extension of the ideas often quoted by the CEO that "we're a start-up too, nothing like this has even been tried before" and "this is an experiment" and represents the need for continual refinement of the incubator-as-process business model. The suggestion was that, if they view themselves in this experimental way, they need to engage in some kind of formalised learning and review process for each area of business model activity. The fourth KPI type was termed 'Link' and represents the need for SBC to assess its connectivity goals, and its success in advancing all aspects of its business model through this connectivity.

Considering the notion of learning based KPIs first, it was evident from the findings that as a small, busy, and entrepreneurial team they did not appear to spend a great deal of time actually reviewing relatively simple activities or issues as a group. This was highlighted by a topic raised and resolved in the discussion about metrics for attracting potential companies to SBC – the business development manager reported to the CEO that a number of people had decided not to come to SBC and cited the fact that they seemed to not have many IP generating tenants there, based on a review of their website. It emerged through discussion that the problem was that the website listed all companies together, and the contractor companies tended (as is often the case for exactly these directory purposes) to have names beginning with 'A'. This meant that the first few names on the scrolling list were not IP-generators, and this problem was further compounded by the fact that even some of the IP-oriented tenants also do some contract research to generate an income stream to sustain themselves. They resolved to segment the tenant list on the website, and put the IP tenants section first. But interestingly they also noted that they seldom got the chance to all meet together and discuss issues like this, so it was good to have this review meeting (even though the topic of discussion had now moved far from the original subject matter).

The fourth KPI type - 'Link' – considers both network generation and its exploitation for ecosystem growth. Throughout the research the idea that the network needed to be somehow assessed came back over and over again, but metrics for open innovation were a constant challenge. The aim here was to start a discussion about how those metrics could be more systematically linked to the separate stages of the business model, with a focus on scientific advancement. Within this discussion it emerged that in fact one important part of the network, the "Experts Panel" that SBC has to offer advice on various business and scientific

topics, has been engaged more with SBC itself than with its tenants. The panel, it seems, has primarily been used for their own organisational development. The 4x4 grid offered in this performance measurement approach provided a useful structure for the discussion of the activities they were undertaking, although it did highlight this uncomfortable fact that the experts they make great claims about on their website were not being used entirely as advertised.

These various ideas and challenges relating to the specifics of performance measurement and management were greeted with more uncomfortable discussion than other topics. It became clear in the feedback session that this area of work was the remit of the consultant, that it was proving difficult, and that the CEO preferred to work in a much more intuitive way in any case. This may explain why the topic was presented for two years running at their annual Open Innovation Summit, at each one a call out was made by the consultant for ideas of measures for open innovation, and following each one their measurement approach never seemed to evolve significantly. The fact that the research feedback presented a different perspective to that which was already embedded, albeit only in a partial form, in their board reporting made it difficult to be accepted in this forum without then obliging the consultant to take action to incorporate it somehow. This tension arose, thankfully, towards the end of the encounter. What did emerge, though, was that the CEO asked for further engagement with the researcher, with an invitation to open up much more data from internal reports, budgets, strategic documents and formation documents to allow greater scrutiny of the performance management systems in place. He also suggested that the business manager should find some budget to support this work, indicating a level of interest and acceptance of the findings and insights generated even if they proved challenging in part.

B6. Conclusions

This Part B of the thesis aims to answer the following research question: how is performance understood and managed within a network incubator JVO? The methodology chosen was that of an in-depth, single case study, looking at a new bioscience incubator funded by a major pharmaceutical firm, a large charity, and the UK government. In addition to the use of the well-established grounded theory method, this study also employed a more novel approach to theory validation and refinement, through the use of in-depth feedback interviews. The complex nature of the industrial setting, and the researchers own goal of developing theory that draws on a range of academic disciplines, meant that this feedback process made a significant contribution to enhancing the confidence that can be placed in the research outputs.

In order to turn this rather open ended research question into something more manageable for analysis, a series of sub-questions was developed as the data was being collected and the first order analysis progressed. These questions have a certain natural flow to them, in terms of the information that needs to be obtained, and the ideas that need to be developed, before finally coming to the central issue of performance management. In this way the twin issues highlighted in the main question – the understandings of performance, and the management of performance based on these – are more easily addressed. The questions presented in the first order analysis, and the conclusions reached from this study, are considered below.

B6.1 Business models

The business models sub-questions derived from the research question ask:

Given the vision and goals of its founders for both themselves and the JVO, how does the JVO set about creating and capturing value for itself and its multiple stakeholders? Is it possible to conceptualise this business model, and provide a clearly articulated, holistic view of total value creation aspirations at the level of the single entity and the wider ecosystem?

It is clear from the analysis and the results of the feedback sessions that the vision and value drivers for this form of network incubator involve multiple forms of capital and multiple time horizons. For the founders and the JVO itself, financial capital is only of

interest in so far as it acts as a hygiene factor, with income generation at some level being a necessary but not sufficient condition for success. Of much greater significance is the advancement in biomedicine being facilitated through the work of the JVO. Although the specific value creating requirements for the private sector, charity, and government funders are slightly different, they are all aligned with the primary need to support the development of biomedical science through enhanced incubation and network creation activities. In order to capture this notion in a single concept the term “scientific capital” is introduced here. The reason for using such a term, rather than deploying the very familiar concept of intellectual capital, is twofold.

Firstly intellectual capital itself is problematic, with multiple conceptualisations that may incorporate both human, or “thinking”, elements with structural, or “non-thinking” elements (Roos, Edvinsson, & Dragonetti, 1997) or lead to even further subdivisions of capitals including human, organisational and customer capital (Petrash, 1996). We therefore need something more refined to give some level of clarity about the specific form of value being created through accumulations of scientific capital.

Secondly, the rationale for coining this term is that it has emerged, strongly, from the data itself. Repeatedly different interviewees from all stakeholders have spoken about “the quality of the science”, or “they’re doing some great science”, or “there’s some really interesting science going on here”. Each statement is in part a subjective assessment but may also be based on some evidence, perhaps the level of funding achieved by a start-up or the interest shown in them by partners or potential purchasers. The key point here is that there is some shared understanding that “Science” has some kind of recognisable value, not only in the financial sense but just as importantly in a medical and social sense: its value is directly attributable to its potential to cure or prevent ill health in all its many forms.

Defining scientific capital can most easily be achieved through a refinement of a fairly clearly articulated definition of intellectual capital offered by Stewart (1997), which states that it is the intellectual material – knowledge, information, intellectual property and experience – that can be put to use to create wealth. In this setting it is only certain forms of intellectual material and wealth creation that are of interest, as the CEO so frequently made clear: They have no interest in playing host to organisations with many patents, large pools of knowledge and high profits if those tenants are doing nothing to advance biomedical science. Thus scientific capital can be defined as the intellectual material – knowledge, information, intellectual property and experience – that can be put to direct use in the field of biomedical

research to create opportunities for both the financial success of the asset holders and for patient benefit in the medium or long term. In defining scientific capital in this way the concept is not trying to be something entirely new (thereby inviting scholars to attempt to knock it down or radically reshape it) but is rather trying to offer a slimmed down version of intellectual capital that has both a linguistic and practical link to its origins.

Collectively, the scientific capital being accumulated by the multiple tenants at a network incubator can be a strong indicator of the overall performance of the incubator itself, as a site that is able to select (as tenants) then support the best bioscience innovations. For the private investor that funded the incubator, and is co-located with it, high performance in scientific capital terms leads to a greater pool of potential acquisitions and partners within easy reach; For the charity that funded the incubator it implies a greater likelihood of the research it funds being able to move out of universities and into a place where it can serve a greater social purpose through more successful commercialisation; For the government funders it underpins the generation of jobs, inward investment, and a level of security in knowing that pharma, big and small, will not leave the UK and establish their main centres of operation elsewhere.

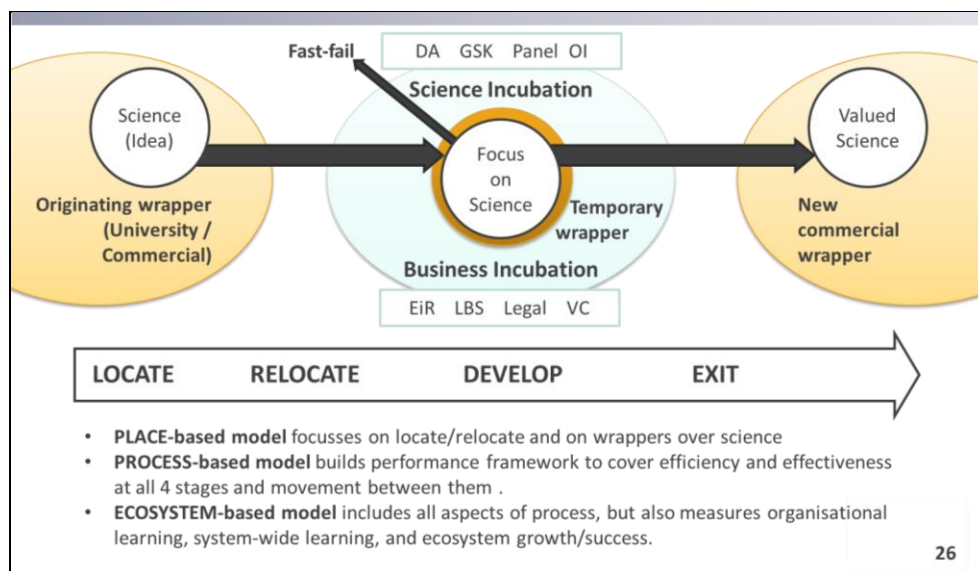
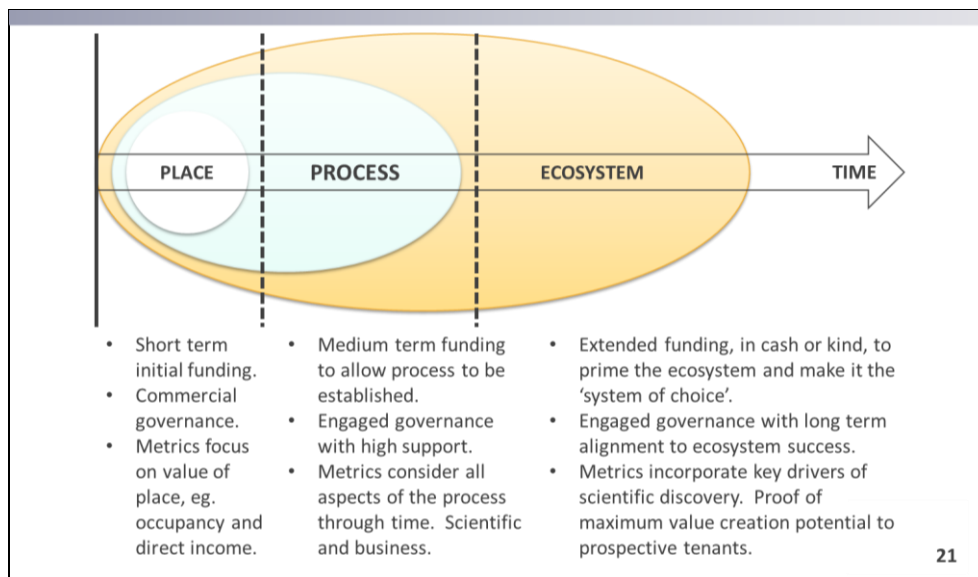
The relationship between scientific and financial capital is different for different stakeholders. For tenants there is a direct and proprietary connection – they need *their* science to advance as quickly as possible, while *their* financial resources deplete as slowly as possible, so they can then convert some of that scientific value into financial value through the development of an evidence base that secures investments or government grants. Unlike a balanced scorecard, where lower level objectives ultimately feed up to the primary objective of shareholder wealth creation, for these tenants the process is iterative – they require funds primarily to further develop their science, which then requires further funding, and so on until they either fail and quit, or succeed and sell to big pharma, or actively trade themselves.

For the investors the view moves to a much more macro perspective, with the success or failure of individual firms being of little concern. The primary concern is the advancement of science, with the specific goal of building an enlarged community of UK based biotech firms that provide a pool of ideas and human talent to feed the industry, provide outputs from academia, and generate economic activity in the process. Given that for any single firm entering an incubator the likely time to production of a medicine is at least ten years, the financial returns for government, charity and pharma investments in the JVO incubator itself

are likely to be considerably longer than this. In the interim they are deliberately not seeking financial returns, but rather are retaining their focus on the ability of the JVO to locate, bring in, and effectively develop the best possible bio-scientific ideas and innovations.

The development of a graphical illustration of both the vision of value creation and the science-centred business model were shown at Figures 4 and 5, and are restated here:

Figures 4 & 5: Incubation Business Model Conceptualisations



The simplification of these ideas into this form was, initially, of some concern to the researcher but in fact this proved to be the true value of these slides when presented to industry experts. For the CEO of the JVO the business model slide (Figure 5) was the clearest articulation he had seen of their business model, whilst for the visiting COO of

another major incubator the vision and value slide (Figure 4) exactly captured the challenges he was facing in getting his funders to understand the different perspective that was needed in the case of this form of long term, ecosystem building investment. These validations are essential for this element of the thesis, as it allows greater confidence when moving on from these ideas to think about the forms of accountability embedded in these understandings of vision, value and the business model of the JVO. This is what is considered next.

B6.2 Accountability

The accountability sub-questions derived from the research question ask:

Within this business model what relationships exist that generate some forms of performance responsibility, and associated accountabilities? How are these multiple accountabilities manifest, what forms do they take and how are they interconnected?

From the study in Part A we know that there are three important phases to the development of a system of accountability in a multi-organisational setting, being the convening of the central coalition of organisations and their respective boundary spanning individuals, the constructing of the system through some iterative, negotiated process, and the ongoing management of this emergent system as it is gradually embedded in the new organisation, in this case the JVO.

The shared vision and aligned, if not identical, goals of the founders of the JVO is an important factor that allows for the shared belief that the development of an ecosystem-oriented business model for a new incubator was a viable way of addressing their separate, identified concerns for this industry. Before any formal system of accountability was constructed between these funders, the process of convening that was informed by the initial proposals for this JVO acted to cement the high level view shown in Figure 4 above, and subsequently embedded in the shared understandings of what this extended project was aiming to achieve. With their agreement to fund and support the JVO comes a certain accountability of those initial 'believers' to ensure the success of the JVO, and to act as highly engaged and supportive Directors on the board to help ensure that this shared vision is effectively converted into clear goals, strategies, and objectives. These shared accountabilities to their own organisations acts to further bind together this central coalition, knowing as they do that in order for this project to work it must be seen to work and to be

supported by all elements of the industry – you cannot have an open innovation hub if you cannot attract people to come and be open in some way with you.

The selection and enculturation of a CEO is an important step for any new, collaborative venture. It appears that the deeply ingrained beliefs of this particular CEO, combined with the powerful, early stage socialisation that took place while he was based within the offices of the founding funder, have had a profound effect on accountability in the early stages of organisational life. They have allowed, in particular, for the JVO to exist with greater freedom from formal accountability structures, other than some limited boundary controls, as this new CEO has been given fairly free reign to experiment with the business model and ways of working. In particular the CEO has been free to demonstrate his commitment to the scientific and business advancement of tenants, as the route to securing the reputation of this location as an incubator of choice for future generations of scientists. With a free hand to experiment, combined with a powerful and supportive board who ensure that tenant selection remains careful and high quality, the CEO has recruited and further encultured a small team to support his clan-based approach to management of the entire community within the JVO. Building strong social accountabilities between the JVO and its tenants, and encouraging further bonds between those tenants, has created a self-supporting community of scientists that provide the external evidence of an incubator that is ‘the place to be’.

However, whilst these freedoms function well during an experimental stage, it seems that normalised systems of accountability within major stakeholders have a certain kind of gravitational pull. This force, this expectation that is temporarily held in abeyance, seems most likely to manifest itself either when staff changes take place and new, non-believer boundary spanners take on important roles, or when new investments are required and more substantial evidence of performance is required. The challenge faced by an organisation such as this JVO is to create metrics that truly reflect their values and their vision – to be able to explain in some formulaic way the value of the networks they build, the scientific communities they support, and the various ecosystem oriented activities that they continue to experiment with as their business model continues to adapt.

Whilst there is a strong sense of accountability felt by the management team at the JVO towards the tenants, this is something that far exceeds their direct, contractual relationship. As the gravitational pull of normalised accountability systems of powerful funder takes hold, there is the potential for these to dominate management attention, possibly leading to, for example, a drive to increase the size of the ecosystem through outward focussed activities

while reducing the level of service offered to existing tenants. Embedding the service-oriented accountabilities into any formalised system is a key, future challenge.

B6.3 Performance management

The central focus of this thesis is on the topic of performance management within a complex, multi-organisational, ecosystem-oriented setting. This section considers the performance management sub-questions derived from the research question, and at the same time draws together key ideas from the previous sections of the conclusion to support the ideas presented here. The sub-questions were as follows:

Performance management – What systems, whether formal or informal, exist at the firm and ecosystem level to ensure that accountabilities are satisfied? How are these systems used in practice, how are they understood and how are they evolving through time?

The three areas of theory brought together to study performance management at this intersection of firm-level and ecosystem-level control offer useful ways of understanding this particular case, but challenges when dealing with any form of generalised theory development. The formation of a JVO based on well aligned goals, if not the same goals, and shared underlying modes of rationality (Broadbent & Laughlin, 2009) appears to have been important in this case. Furthermore, these shared rationalities appear to have made the construction of a mutually acceptable system of accountability for the JVO much easier to develop. This is a natural extension of the theory as originally proposed, which suggested that dominant rationalities would form a powerful context that would shape the formation of a single organisation control system. Moving from the domain of the single organisation and the proposed ideal types of a single system, and locating this idea in the collaborative space we see that the shared understandings of boundary spanners makes ‘constructing’ and ‘managing’ the new system of accountability relatively easy. Furthermore, these shared understandings and the control system that results can be secured and embedded by the recruitment of a powerful individual leader for the collaborative venture who shares the beliefs, and has been exposed to the same forms of rationality enculturation. However, as suggested in Part A of the thesis, any changes within the individual collaboration partners can have significant effects on the joint venture.

The combination of accountability theory developed in Part A and the lifecycle considerations in Part B provide a valuable insight into how new multi-stakeholder business models are created, developed and managed in the initial phases of their existence.

The progression from separate entities to joint venture partners includes a control system development process that, rather than being the construction of a technical system with pre-established and formalised reporting mechanisms, targets and performance management, proceeds as a process of enculturation and clan-building. This process begins with the selection and enculturation of a CEO, then a management team, then other clan members, all being added incrementally to a group with a powerful guiding coalition – the ‘clan elders’ - who have the power to select or deselect other members, who provide resources (knowledge, routes to finance, access to assets), and who exert managerial influence through the selected clan leader. This leader, the CEO, has a complex role that requires an intimate understanding of the business model and the need for value generation and distribution around the clan in an equitable manner. The ability to achieve success in the role is in part down to the willingness of the founders and clan elders to allow the CEO to experiment with different ways of developing value, without pressure to distribute value back to those founders, or satisfy anything other than a limited set of boundary controls.

Yet the changes in expectations of accountability being placed on the JVO, and the CEO in particular, represent a lifecycle step-change. This pressure to systematise, formalise and develop greater clarity of reporting may also be necessary for other change-related reasons. The insights from the feedback encounter revealed just how challenging clan control becomes when the same small group of people must grow the clan (an outward facing role, with a need for careful selection based on scientific and social / open innovation criteria) and nurture the existing clan (based on building connectivity and advancing science). For now, the tenants are based in a single building, but with the process of securing funds for the next phase of growth well underway, the need to create more robust measures of performance across all aspects of the business model is becoming a pressing requirement within the JVO.

What this formalisation of controls will also do is move the JVO away from its incubator tenants in terms of its ways of working and, perhaps, ways of thinking as an organisation – it can no longer claim to be a lean, mean, experimental start up that is ‘just like them’ as it becomes a larger and larger business park, more closely aligned in values, ways of working and formalised reporting to its large founders than its small tenants. That does not necessarily mean it will not be able to manage the incubation process with the same level of

effectiveness, but there is likely to be a loss of clan control and with this loss a reduction in the ability to encourage, cajole and motivate tenants to ‘do the right thing’ for open innovation. For the current cohort that may not be a concern, because they have lived through the set-up stages and are already co-working in interesting ways, for it is likely to have an effect on newer tenants as the expansion of the JVO continues.

An important question to be asked of this research is whether it has any generalizable value, beyond this original and rather unusual setting. The presentation of the business model slides (figures 4 and 5) at a major industry event, and the subsequent responses of leaders from similar but not necessarily connected industries, suggests that these ideas do have some wider explanatory power.

Of particular importance is the level of similarity of the systems of accountability of the funders, and the time horizons within which they tend to operate, on how they support the new ecosystem. Government funding in particular was a major topic of conversation with those people interested in these emergent theories. Government seems to be attracted to the idea of ecosystem creation and long term community building, but in reality comes from a specific government, with a limited time horizon, hoping to have some impact within a single parliament or at least to limit their engagement to the life of that parliament. They are also the one entity that, whilst they perhaps ought to have the longest term view of all, are likely to have changes in boundary spanners to individuals who share little of the original person’s beliefs. This puts a disproportionate level of concern onto how to 1) develop a performance management system that demonstrates the long term value creating activities embedded in the – initially non-income generating activities – of supporting tenant development, and 2) explain the business model and in particular the shift from place to process to ecosystem ways of thinking such that any government funder is sufficiently convinced that they can hold their normalised world views in abeyance, and be convinced by those other metrics that may be unfamiliar to them.

The generalizability of these ideas may extend further, to those entities who are thinking about convening to form a new collaborative entity, focussed on their community building aspirations. The roles of goal congruence, key staff enculturation, clan controls tied to engaged governance yet freedom to experiment with business models, are all ideas that may translate to multiple areas of business and social activity. The test, of course, will be in the translation of these ideas as they are put to work in some deliberate manner for the first time.

C1. Foreword

The work done by this thesis was always intended to have two significant faces: to allow the researcher to develop as an academic and generate outputs that could help with academic advancement, and secondly to generate insights that might be of real value to business leaders and managers. The past experiences of the researcher in personal development, training and education have instilled a real desire to share ideas, and in doing so to hopefully offer useful new perspectives back to those individuals who helped to make the research possible in the first place. At the same time these feedback encounters provide the ideal opportunity for getting their precious, critical feedback to help refine emergent ideas and theories.

It is therefore natural to extend the work of this thesis to address this issue of feedback, based on these strongly felt principles of sharing and educating, and the willingness to “lay bare” one’s own ideas for critical destruction in the field from whence they came.

As will be discussed further below, what quickly became apparent when taking a more academic look at this topic, was that almost no literature existed on the feedback process in either the accounting or broader management literature. Yet it seems, in the language of the business model, to be a route to both the generation and instantaneous capture of value in the form of useable insights for both researchers and research participants; in this sense it is a double sided business model, one that may focus particularly on the intention to provide a form of free consultancy, or on a desire to test or validate research findings, or some combination of both of these.

The two studies carried out in this thesis provided the opportunity to first create, and then test, many of the ideas in this third, more methodological section. In Part A the study of The Shard Abseil resulted in a very good, trusting relationship being developed between the researcher and the CEO of The Outward Bound Trust. When the research was completed the CEO requested feedback on how he ran the organisation, seeking any insights that might have emerged after what he termed “ten months of poking about and getting to know us.” This feedback encounter was very much of the free consultancy form, not being directly related to the research question or findings. However, the meetings were still recorded in order to provide useful data for the development of a feedback analysis methodology, specifically something based on a form of discourse analysis that would help to unpack what

was happening in the discussion. So, Part A did not so much benefit from the use of this methodology, but rather it provided the opportunity and the raw data required to develop it in the first place.

The test of the feedback approach came in Part B. The research for this part of the thesis was quite complex, requiring the researcher to develop an understanding of industry performance on many different levels and then begin to model how these interacted, and what role this central incubator organisation player in ecosystem management. The research participants were all experts in this field, and so delivering feedback to them, in particular a highly respected CEO with over 20 years of experience in incubator management, was a nerve wracking proposition. However, as described in the methodology section of Part B, this approach proved to be of huge value both in terms of immediate theory validation, then in later validation and routes for further research, after presenting the same ideas to a wider audience.

The feedback encounter for Part B certainly aimed to deliver both forms of imagined value – to both the research participants and to the researcher and this body of work. Unfortunately it was not possible to audio-record that encounter so the richness of the dialogue was not available for detailed discourse analysis. None the less, the value of the overall approach was evident, and the notes taken during that encounter helped to inform the final theoretical developments presented in Part B of this thesis.

The rest of this Part C of the thesis is presented as a stand-alone paper, but as discussed above, the progressive development and then use of this methodology has been an integral part of the overall thesis.

C2. Introduction

As academic researchers are increasingly assessed on their ability to deliver impact on the world around them, the need for greater engagement with business and society to share the outputs of our research naturally increases. For some this is seen as a social imperative, for others an onerous duty, but I argue that under certain circumstances the direct encounters between academics and individuals within organisations are valuable research opportunities. This part of the thesis is presented as a stand-alone academic output that looks closely at one particular type of encounter, which is termed the “feedback interview”, where researchers offer up their provisional findings, analyses and insights to research participants in a way that

encourages discussion, debate and learning. It is suggested that the textual data created in these discussions, when subject to the linguistic analysis method that is developed in this paper, can make a significant contribution to both interpretivist and interventionist research.

The feedback interview between researcher and manager or managers can create value for both parties (Kornberger, Carter and Ross-Smith, 2010) through the sensemaking and sensegiving that necessarily takes place in such a small group, interpersonal intervention (Baard, 2010; Jönsson, 2010). Whilst established understandings of interventionist approaches tend to focus on extended case study-type engagements within a firm, it is argued that these focussed interpersonal interventions at the level of a senior manager or CEO are equally interventionist in intent, and warrant a method of analysis that helps us to unravel the way meanings are constructed, accepted or resisted through the feedback process.

For the interpretivist researcher the feedback interview and its specific method of analysis offer a valuable addition to extant methods, and a novel way of re-introducing the emic perspective into the quest for plausibility and validity in our final work. It is well established that balancing and blending the immediate, contextually situated emic perspectives we draw from a research site with our pre-existing, theory-rich and experience-laden etic perspectives, is one of the great challenges of interpretive research and the subject of much theoretical debate in the accounting literature (e.g. Ahrens, 2008; Ahrens & Chapman, 2006; Kakkuri-Knuuttila, Lukka, & Kuorikoski, 2008; Lukka, 2014; Lukka & Modell, 2010). In this paper it is suggested that whilst the process of abduction is positioned as a social constructivist solution to many of the perceived problems of emic-etic synthesis (Lukka, 2014; Lukka & Modell, 2010) there is still a risk of leaning towards an etic bias if the advice of some of these methodological treatises is followed. Whilst I draw attention to these concerns, the goal within this paper is not to focus on methodological argument but rather to offer a practical, yet theoretically robust, approach to improving the outcomes of the abductive process.

These feedback encounters reinsert the emic perspective at the heart of research plausibility and authenticity. In particular, they extend the process of contrastive thinking, which is so essential to abduction (Lukka, 2014), to allow the direct voices of research subjects to aid us in our thought experiments and counterfactual analysis. Furthermore, these feedback encounters allow us to address the methodological risks associated with a reliance on interview data, and in particular the risks associated with face to face account giving (Roberts, 2009; Messner, 2009), by reversing the accountable relationship between the researcher and the research subject.

While existing literature touches upon informal practices of sharing initial interpretations (Ahrens and Chapman, 2006), giving feedback as a form of payback in return for research access (Czarniawska, 2001; Jørgensen and Messner, 2010) or using this as a valuable sense-making, sense-checking or critically reflexive process (Kornberger et al., 2010; Groen, Wouters & Wilderom, 2012) the feedback interview as a specific encounter has received very little attention in the literature. Given its multiple, potential ways of creating value within a research project we suggest that this is an important gap in the literature.

This paper aims to address this problem in two sections. In section 1) the role feedback interviews play in both interventionist and interpretive research is considered, then in section 2) a parsimonious discourse analytic method tailored to these encounters is developed then illustrated in use through a series of analytical vignettes. The aim is to provide a theoretically robust, yet easily applied, method that can be used by researchers as they engage in more of their own feedback interviews.

The method developed, which we term Feedback Discourse Analysis ('FDA') draws on the discourse analysis ('DA') method proposed by Gee (2011), which has been used extensively for studies in the field of education (Rogers et al., 2005) and which itself draws heavily on the established work of Fairclough (1992, 2005). This framework follows, and aims to extend, the increased use of 'the linguistic turn' as it is applied to organizational studies (Alvesson and Kärreman, 2000, 2011; Fairclough, 2005; Marshak & Heracleous, 2005; Chouliaraki & Fairclough, 2010; Leith & Palmer, 2010). By demonstrating the value-in-use of this framework through short, illustrative analyses of an extract from a genuine feedback interview (Appendix I) the aim is to offer researchers sufficient practical insight to allow them to rapidly integrate it into their own research designs. In doing so it is hoped that this theoretically robust yet easily adopted approach will encourage greater engagement with communities of practitioners in the later stages of our research, thereby improving both the final outputs and their wider impact on individuals and organisations.

C3. Section 1: The Role of Feedback Interviews

The feedback interview and its subsequent analysis can be seen as an intervention that is worthy of study in its own right, but also as a contribution to the abductive process within a primarily interpretive piece of research. The following sections look at these two

perspectives separately, in order to develop the rationale for feedback interview analysis, and locate it within the existing literature.

The interventionist perspective

Interventionist research in accounting has come to be associated with case studies where there is close and extended engagement between the researcher and the firm under study. This is not, however, the only form of intervention that can yield important and useful knowledge: For the manager a feedback interview can be an impactful, educative process that helps them identify areas for change or attention (Midgley, 2000; Hope Hailey & Balogun, 2002; Huang, 2010); For the researcher this short, focussed yet intense intervention with an experienced manager has the potential to reveal a great deal about the management of the organisation, the possibilities of change, and the role of the intervenor in affecting such change. In studying such a single feedback encounter in detail we engage in a form of interventionist research that focusses its attention at the level of the individual or small group (Baard, 2010), investigating a change process that is purposeful, educative and based on personal development (Hope Hailey and Balogun, 2002:160). Such forms of cognitive intervention (Reddy 1994, cited in and adapted by Baard, 2010) with an educative intent fit the 'action science' interventionist approach (Jönsson and Lukka, 2007), allowing us to explore the various ways in which our ideas and insights are accepted, challenged or further developed through this highly immersive, mutually constructed emic-etic interaction. The use of feedback interviews, and the development of a suitable method for analysis, responds directly to the call of Lukka and Mouritsen (2002) to be open to new options when selecting an interventionist approach that can contribute significantly to both practice and theory.

The interpretive perspective

The feedback interview is an opportunity for researchers to expose their preliminary theoretical developments to a level of emic scrutiny that both extends and materially changes our engagement with our research subjects. This practice is a powerful way of improving interpretive research, in particular given the importance placed on emic perceptions, context sensitivity and plausibility as key components of validity: "The main challenge in validating these types of explanations would seem to lie in preserving the richness of the emic

understandings and the sensitivity to the context in which they are generated, whilst rendering them plausible” (Lukka and Modell, 2010:469). Despite this apparent primacy of the emic perspective, which is in accordance with previous suggestions (Kakkuri-Knuuttila et al., 2008), the authors propose that the etic perspective takes precedence as research moves towards publication in an academic arena, since plausibility here must be determined according to “the dominant belief systems of academic communities at a specific point in time” (Lukka & Modell, 2010, p. 469). Lukka (2014) describes the abductive process as moving from emic-level empirical analysis towards a more theoretical form of knowledge as an individual piece of research advances and looks to be incorporated in our body of shared understandings of a particular field. Whilst plausibility at the point of acceptance into the academic body of knowledge is important, it is suggested here that since this is *external* to the domain from which this piece of knowledge originated, a preceding step is valuable to ensure *internal plausibility*. This step is our feedback encounter, in which we offer up our ideas and provisional theories for review, thereby bringing the emic and etic together in space and time in a single, in depth, negotiated encounter. It is then the combination of *internal* and *external* plausibility that offers research its greatest claim to validity.

The value of this additional analysis also comes from its ability to mitigate the risks associated with reliance on interview data. Ahrens and Chapman (2006) suggest that it is possible for accounting researchers to work from interviews rather than extended, anthropological-style engagements in the field, given our pre-existing understanding of the languages and practices of accounting. Whilst they may be correct in stating that researchers can gain a good understanding of certain accounting practices quite quickly within a specific context, this places a great emphasis on interview texts to inform the analysis, exposing the researcher to two potential areas of concern.

Firstly, since the creation of interview texts is a complex interaction that always relies on some form of interpersonal co-construction of meaning (Alvesson, 2003; Roulston, 2006; Qu & Dumay, 2011) it is inevitable that previously objectified ‘facts’ will then re-affect the individual researcher in the formation of new meanings (Lukka, 2014, p. 561). Researchers cannot, therefore, see themselves as neutral or passive data collectors and must accept that their internalised, etic perspectives will be increasingly important if field-based data collection is reduced to a smaller sample of interviews.

Secondly, the face-to-face accounts given to the interviewer are always subject to a number of concerns relating to whether they do, in fact, offer a true picture of the emic

perspective. This is due to the nature of the accountable relationship created between researcher and research subject, which can create a level of transparency that leads to defensive behaviour, self-blame or the displacement of blame (Roberts, 2009) for actions or outcomes by the interviewee. Furthermore, the ability of any individual to give an account of themselves will be affected by their narrative expertise, by their ability to reflect on their 'opaque selves' and by their sense of exposure to having their identity somehow created through the process of giving their account (Messner, 2009).

For the interpretivist researcher who relies on interview evidence to construct their study these twin issues of co-construction and accountability are constant challenges, and while they may attempt to mitigate them through their interview design, they can also utilise feedback interviews to address these concerns. The value of the feedback interview is its ability to significantly alter the accountability relationship between researcher and research subject, since it is now the researcher and their analysis, rather than the manager and the organization, that are the subjects of scrutiny. By switching the focus of attention we give voice to the research subject to challenge any presuppositions that the researcher may have inadvertently brought into the field with them, or question any analysis based on interviews that, in retrospect, might have been influenced by the accountability pressures that existed at the moment of data creation. Furthermore, since the close textual analysis recommended here pays particular attention to not only the respondent but also the interviewer, we are forced to consider how meaning is co-created and how ideas are developed or challenged throughout this encounter. It is through the detailed analysis of these feedback encounters, as researcher and participant interact, that the interpretive researcher can extract significant new understandings of the research site.

C4. Section 2: Discourse Analysis ('DA') in Management Research

The aim with this paper is to develop and demonstrate a practical, effective and methodologically robust DA framework that can be used to draw out valuable ideas and understandings from management feedback encounters. To do this it is important to overcome the challenges of using discourse-focussed analysis within an organizational context. These challenges are discussed here, before focussing more specifically on the development of our analytical approach.

The use of DA in studies of management and organisations has grown in popularity significantly, but its often vague or incoherent application (Alvesson and Kärreman, 2011) has led to certain methodological concerns and related suggestions about how to bring both clarity and robustness to this type of research (Journal of Management Studies (Editorial), 2010). The concerns of Leith and Palmer (2010) are multiple, but their main focus is on the need to deliberately explicate definitions, methodologies and each element of the analytical process. They also express concern over the treatment of context, drawing on two significant papers: Fairclough's (2005) demand for greater attention to be paid to both intertextuality and the role of pre-existing social structures external to the text, as well as Marshak et al.(2000) and their call for greater attention to the unconscious inner-worlds of both the researcher and the interviewee when trying to establish the meaning of any narrative. Leith and Palmer (2010) are effectively calling for researchers to acknowledge this broad contextual canvas that metaphorically extends both inwards and outwards from the text under scrutiny: looking inwards to the embedded narratives and past experiences of those involved (Marshak et al, 2000) and outwards to the entire organisational and social world that may influence the text.

What this equates to is a call to address what Gee (2011) terms 'The Frame Problem' which considers the question of how much context we can allow into our research, given that context is indefinitely large and ranges "*from local matters like the positioning of bodies and eye gaze, through people's beliefs, to historical, institutional, and cultural settings*" (Gee, 2011:67). Gee presents this as an issue of validity and whilst he makes suggestions relating to the coverage and convergence of data and analysis, he asserts that it is the careful selection of tools of inquiry, and their application to the reality-building that takes place within a text, that will ultimately determine the success and validity of any DA work. This suggests a need to clearly define the approach to analysis that has been adopted, which analytic tools are being drawn on, and why (Leith and Palmer, 2010). Such clarity also answers influential calls from elsewhere in the management literature for more robust research process management and explication (Alvesson and Kärreman, 2000, 2011) within DA.

Despite this desire for clarity and structure within a research design, Chouliaraki and Fairclough (2010) warn against an overly formulaic approach that may destroy the possible value of creative interdisciplinarity and call for organisational DA to move "*towards more versatile and porous methodologies that make space for novel, interdisciplinary research designs in the field*" (Chouliaraki and Fairclough, 2010:1214). These sometimes conflicting criteria demand a careful consideration of how the analytical process is developed and

described in order to ultimately make persuasive knowledge claims to both the organisational and discourse communities of research practice.

This leads to a need for a very clear explication of the analytical techniques applied to the interview text, careful delimiting of the contextual frame, whilst maintaining enough analytical openness and flexibility to allow some level of creativity in bringing together theory and data in ways that offer useful and persuasive research outputs. Given that the context of a feedback interview will generally be closely linked to an area where the researcher has a depth of knowledge and recent experience, this allows for careful early identification of what should and should not be treated as within context. However, during the closer study of the text itself there will certainly be aspects of context that need to be explored further, or viewed differently in light of the ongoing analysis, and as part of the important process of reflexivity as the researcher challenges their own initial assumptions or ideas. In this sense context will be seen as an evolving analytical construct, rather than something distinct and separable (Chouliaraki and Fairclough, 2010), and such evolutions in the conceptual understanding of context and its dialectic relationship with the interview text will be an important part of this analysis.

Developing a Discourse Analysis Approach

Discourse analysis is accepting of different theoretical, methodological and grammatical backgrounds and interests (Wodak and Meyer, 2009:3-5). The result is that today's DA scholars have a wide range of evolving methods at their disposal and must therefore make clear choices about which they select. For the development of the analytical framework here the method developed by Gee (2011) offers the foundation of the approach. Gee's work has emerged as a popular complete DA method that draws on the works of other scholars to build a comprehensive guide to analysis incorporated into a single text. In particular Gee pays close attention to the influence of Fairclough in relation to the analysis of intertextuality, which is important within DA in general and has been explicitly positioned as being central to organizational DA (Fairclough, 2005; Leith & Palmer, 2010). Gee's (2011) method systematically builds an understanding of what is happening in any text based on seven ways that language can be used to construct reality. Gee combines these seven 'building tasks' of language with six 'tools of inquiry' which provide "some tools we can use to analyse the workings of these building tasks in specific instances of language-in-use" (Gee, 2011:28).

For example the Intertextuality tool specifically looks at how other texts, whether they are spoken interviews or written documents such as academic papers, are being used in the text we are studying to build arguments, connect things, construct identities of people as experts or knowledge brokers, or any of the other building tasks that go on within the text as a whole. As Gee himself acknowledges, the full method outlined here is so comprehensive as to be unworkable in its entirety. He suggests 42 questions which can potentially be asked of a text in carrying out an analysis, each of which lead to many sub-questions; the implementation of this complete framework would be too cumbersome to be practicable. However, he acknowledges that “for the most part, any real discourse analysis deals only with some of the questions” (Gee, 2011:122). The model must therefore be rationalized, based on the specific needs of our feedback encounter and the motivations for our study.

In this paper the rationalization is achieved by combining tools of inquiry that can be connected, for our purposes, and combining the reality building tasks into three key questions followed by a summarising question that draws together and focusses the contribution of this tool to our overall analysis. Section C5 presents this revised framework, with links to its origins within Gee (2011). However, before moving to the development of the framework it is important to establish the ontological and epistemological roots of the model being constructed, the ways in which discourse is understood for the purposes of this research, and some of the broader applications and limitations of this approach.

The nature of Discourse and its Analysis

There have been calls for more action-oriented research by accounting scholars, and Laughlin (1987) presents a clear process for the “three stages of critical theory set in an accounting and organisational context” (Laughlin, 1987, p488), promoting a highly interventionist approach, as follows:

“These insights are then taken to the primary organisational actors...who together with the researchers continue to explore the accuracy or inaccuracy (to them) of the nature and interconnections of the various insights gleaned in the ‘critical theorems’ stage. This constitutes the next, ‘processes of enlightenment’, stage. Finally the researchers and the researched together, through further discursive processes, derive, in the light of the insights from the previous stages, strategies which are intended to lead to change and development in

the accounting system and the social context and the interrelationships between the two." (Laughlin, 1987, p489).

This is a clear call for researchers to directly offer feedback to the organisation in a collaborative and educative process, and it is this encounter – which we call the “Feedback Interview” - that we wish to analyse here, using a form of discourse analysis.

To analyse discourse it is important to first be clear about what is understood by this term, in the context of this study. The terminology used by Gee (2011) is both helpful and relevant here, since it is his framework for discourse analysis that is used as the underpinning of the approach being developed. Gee makes an analytical distinction between what he terms “big D” discourse and “little d” discourse. The former relates to the broader debates within societies that emerge and continue through time on certain topics of importance.

Such Discourses therefore incorporate texts of multiple forms, including but not limited to the actual written word, the reporting of events or selected reporting of statements, speeches, presentations, news reports in print, televised or online, the various email exchanges, blogs and website texts that consider the topic, and any references to these made in other communications, extending outwards from any individual text as ideas and opinions are translated, transmitted, combined and reinterpreted over time and distance. These big-D Discourses naturally represent a number of individuals and groups, through time and in multiple spaces, and analysts of such Discourses are often interested not only in the evolving content of the debates, but also the ways in which power and politics are implicated in such debates. This is one important stream of Critical Discourse Analysis research, and some of its leading proponents such as one of the founders of the genre, Ruth Wodak, have used this approach to study the Discourses of racism and gender relations, as just two significant examples.

Embedded within this vast world of big-D discourses come the individual texts that might be studied using the more fine grained analytical approaches offered through different forms of small-d discourse analysis. Such texts are either individual writings or the transcribed collections of speech acts created in a specific encounter, for example a research interview, that takes place in a relatively constrained time and space. Whether the analysis is necessarily “Critical” is a topic of debate in the literature, as discussed briefly in the next section.

Evolutions in Criticality within CDA

The need to specify a CDA approach and its particular method of use requires some understanding of the ontological and epistemological underpinnings of this school of research practice. This is important because of its impact on the specific approach to analysis selected here, which is based on Gee's (2011) method, which is predominantly socially constructivist in nature, but augmented by a consideration of structures within both context and text that responds to Fairclough's (2005) call for greater attention to a critical realist form of stratified ontology in organisational CDA. This section will discuss how CDA has adapted from its original forms and focus, to become an approach favoured by organisational researchers, and consider how this helps to establish a particular approach for this study.

The early CDA research, which did not look at management and organisations specifically, none the less showed similar tensions to those discussed above as the methodology expands into these areas. Early CDA writings highlight the same conflict between the need for creativity and flexibility on one hand, and some form of collective agreement on how to delimit the scope of research practices that fall under the CDA banner, as argued by Fairclough: "The aim is not of course uniformity of practice, but a roughly common agenda – the establishment of at least some consensus over what are the main theoretical and methodological issues in the field." (Fairclough, 1992, pp195-6). Yet at the time of writing this article CDA is still a relatively young discipline, gaining shape and momentum following the symposium in 1991, attended by five of the (now) well-established and extensively published leaders in the field. Whilst these authors shared common ground in terms of their focus on interdisciplinary studies aimed at exposing power relations, abuses and ideological issues or related social concerns, they approached such work from different theoretical, methodological and grammatical backgrounds and interests (Wodak and Meyer, 2009, p3-5). It might be argued that the strongest link between these authors is not, in fact, their commitment to certain ways of analysing discourse but their deeply critical intent, in the sense of The Frankfurt School and Habermas, which leads Wodak and Meyer to suggest that "CDA researchers are interested in the way discourse (re)produces social domination, that is, the power abuse of one group over others, and how dominated groups may discursively resist such abuse." (Wodak and Meyer, 2009, p9). An almost identical statement is reiterated by van Dijk (2009, p63) while Fairclough goes further still, presenting his 'Manifesto for critical discourse analysis' in which he argues that CDA should begin from a political imperative to

expose then mitigate or even eliminate the inequalities in society, in particular in relation to contemporary transformations of capitalism (Fairclough, 2003, pp202-3). However, I will argue that Fairclough has either changed his political views since his earlier works, which have a strong connection to his Marxist political beliefs (Wodak and Meyer, 2009), or he has put aside his political motivations in an attempt to make his CDA approach more applicable and useful to the organisational researcher.

A change in Fairclough's CDA is evident from an analysis of his paper in the journal *Organization Studies*, utilising Fairclough's own simple analytical question relating to intertextuality: "*Of relevant other texts/voices, which are included, which are significantly excluded?*" (Fairclough, 2003, p192). This is an important question to ask of this paper in particular, since it is his first paper for a journal focussed on organisational rather than linguistic research, in which he begins by openly stating that "the discourse of organisations has not been a major focus of my work" (Fairclough, 2005, p915). In this paper Fairclough appears to entirely shift his definition of 'critical' from the political to the ontological, positioning the term "CDA" with critical realism rather than critical theory in the process. There is no mention in this 2005 paper of the ideological struggle that lies at the heart of all CDA, according to his earlier work. Now the 'struggle' is against postmodernism and extreme forms of social constructivism which he sees as undervaluing the role of pre-structured objects in much organisational CDA research. In this he cites Bhaskar's triple ontology which, in its original form (Bhaskar, 2008, first published 1975) was purely designed as an alternative to positivism for the natural sciences and later evolved to include the realm of the social (Bhaskar, 1986). It is from this critical realist perspective that Fairclough attacks the postmodern CDA perspective, which "*tends towards a one-sided emphasis on process, whereas the realist view of discourse analysis I advocate centres on the tension between process and pre-structured (discoursal as well as non-discoursal – see below) objects.*" (Fairclough, 2005, p918). This is not new for Fairclough in that his earlier work is also informed by a critical realist ontology, with a clear focus on both structure and process, and the interactions between the two (Fairclough, 2003). What is most certainly new is the significant exclusion of all mention of ideological criticality which so dominated his earlier work, and underpinned the launch of the CDA research community fourteen years earlier.

This highlights two important points when designing an analytical framework for this CDA study. Firstly, the political evolution of organisationally focussed CDA towards a broader form of criticality removes the potentially conflicting goals of a Marxist-informed struggle against the forces of capitalism on one hand, and the desire to provide socially relevant and valuable research that will be consumed by, and empower, the managers of private companies – the very organs of capitalism. Secondly, there is a need to carefully address the balance between social constructivist approaches, which focus closely on the sense making and reality-building actions that take place within a text, with a consideration of pre-established social, organisational and material structures that influence both the text and the context, either explicitly or implicitly. For this reason the model constructed in this research incorporates specific structural elements to balance the primarily social constructivist approach encouraged by the original framework from Gee (2011), whilst still endeavouring to offer a relatively simple, parsimonious and useful approach for management scholars to apply.

Discourse Analysis, Conversation Analysis and Wider Applications

This more focussed, single-text-oriented form of discourse analysis has at its roots an interest in unpicking the meanings, intentions and embedded narratives relating to power and control within a text or texts. In the discussion of the analytical approach being developed for this paper, the start point is that our primary interest is in the particular text of the feedback interview and the ways in which the researcher and research subject interact to deliver ideas, shape meaning, and potentially change behaviours or intentions as a result of that encounter. The term Discourse Analysis (“DA”) is used in the thesis rather than “CDA” for this method, since this is the way in which it is described by Gee (2011), although he acknowledges that we cannot ever avoid the roles of power and politics in any discourse.

This form of discourse analysis differs specifically from Conversation Analysis (“CA”) in its focus and intent. With CA the study is rooted in the need to understand the social practices of those involved in the conversation, building on the ethnomethodological approach of Garfinkel (1967) with its intent to study the site of interest in depth and detail, from the perspective of those engaged in the making of meanings through their everyday practices and interactions. It is the encounter itself that is of greatest interest, and every part of the interaction, from the ways that turns are taken to the alignment of bodies or gazes, the

pauses for thought, the interruptions and hesitations – all of this is of importance as the single encounter is studied. In contrast, we are interested in Discourse Analysis here because we want to look beyond the single encounter, and in particular look at how the meanings brought in to it about certain organisational topics are shared, interpreted, challenged and possibly changed in order to have some impact on organisational activity in the future. As such we are very much interested in the study of intertextuality, and the ways in which different texts are brought in to the discussions to shape meanings and influence the ways in which the participants interact and proceed.

This does, necessarily, lead to some concerns over the ways in which power is used within this encounter. The issue of power relations is one of the specific risks associated with this particular method, and should be considered along with other potential drawbacks. Firstly, there are the ethical concerns relating to the responsibility of the researcher when attempting to affect change at an individual – and through them, organisational – level. But beyond this there is the risk that the perceived status of the researcher as “expert” will reduce the likelihood of their ideas being challenged in any way. There is also the risk that the interview is not with the best possible candidate, either because they do not have the necessary knowledge to test and challenge the ideas being presented to them, or because they are just one of the many voices within the organisation who fed in to the research as it progressed, but now their voice is given disproportionate weight as the single individual being asked to validate the research findings. Whilst these risks can be mitigated through careful research design, they need to be considered and explicitly addressed wherever possible when setting up this method of theory testing and validation.

Notwithstanding these concerns, the motivation for this methodological study is a belief that the feedback encounter between researcher and research subject(s) is an important site of enquiry, worthy of detailed investigation and analysis. The questions developed here have emerged from a broader theoretical framework, with a specific aim of shaping them to facilitate an efficient and effective analysis in this particular setting. It is certainly the case that these questions have some value in other interview settings, in that they focus on a range of important topics, but their intention is to analyse the way in which reality is being co-constructed by the two or more parties within the interview encounter, and to focus on that interactive and reciprocal sense making and sense giving. It would be hoped that in a more “normal” interview encounter the approach taken by the interviewer is not one of shared meaning making, but rather of inquiry and, as far as possible, relatively value-free

questioning of organisational actors. However, using this as a theoretical framework for interview analysis may be useful in helping to uncover unconscious biases or tendencies to “lead the witness” into certain areas of discussion, or opinions about certain topics, through the shaping of questions and follow points.

C5. The Feedback Discourse Analysis (‘FDA’) Framework

The FDA Framework identifies *four key questions* which can be asked of the feedback interview – what; how; why; and to what effect - in relation to *three key areas* of investigation: Texts, Worlds and Presentations. In this section we first explain how these *four key questions* are used to interrogate the data, then we focus on each of the *three key areas* in turn. For each of Texts, Worlds and Presentations we use interview extracts to create example analyses of the kinds of research insights that can be derived through judicious use of those questions.

The first question, *What?*, brings our focus on to the particular aspects of the text that are of interest and asks us to identify specific Texts, Worlds and Presentations that are being brought in or constructed in the interaction. The second question, *How?*, asks us to consider how these Texts, Worlds and Presentations are being used to make arguments or present information, for example by connecting them to each other or to key aspects of concern within the discussion, using them to highlight what the researcher believes is significant or using them in combinations to develop the researcher’s identity as a well-informed expert. The third question, *Why?*, asks us to consider the rationale for using Texts, Worlds and Presentations in this way in the encounter, whether it is questioning why the researcher needs to build an identity in a certain way, why relationships between different texts are important in effecting change through the intervention, or why certain relationships between people or with certain ways of working need to be discussed or challenged. The next shift from *Why?* to *What Effect?* broadens the focus away from the specific encounter towards the broader feedback process and the researcher’s ongoing relationship with the manager-respondent. In this way we look at how the process itself is being managed or affected by each section of the text, as well as exploring the responses, questions, concerns or changes taking place in the manager. The complete set of questions is parsimonious enough to be applicable as a whole, yet can be traced back to its origins in such a way as to allow researchers a route to additional analytical resources should they wish to use them.

The following section provides an explanation of each area of investigation and the aspects of the text it will explore. We illustrate these points by drawing on an analysis of the text at Appendix IV, which is an example of an interventionist feedback interview.

The analysis of Texts

The analysis of Texts (with a capitalised ‘T’) considers the way that other texts are implicitly or explicitly included into the present text under analysis, and more broadly the way that combinations of texts that form ongoing written or spoken debates within the organisation, or our analysis, or wider society are also included and discussed. (Texts is used in the broad sense here to refer to any instance of language use, rather than exclusively referring to written language.) This combines Gee’s (2011) *Intertextuality* and *Conversations* tools of inquiry. It is worth noting that Fairclough (1992, 2003, 2005) places great emphasis on intertextual analysis and makes it a significant aspect in his description of organisational DA, including the need to consider trans-disciplinary recontextualisation that studies the dialogue between multiple disciplines and theories (Chouliaraki and Fairclough, 2010). This supports the argument for combining *Intertextuality* and *Conversations* in one category, as we attempt to capture the flow of both academic and organizational debates on the issues under study in our feedback process, or the way different texts are combined to recontextualise their meanings or use and thus allow the development of impactful arguments to inform the feedback process.

What other texts (eg. Interviews, documents, theory) or broader societal debates are being used in the feedback?

How are they being used?

Why are they being used in this way?

What effect does the use of Texts have on the intervention process, the ideas or arguments being developed, and the relationships between people? How are these ideas accepted, rejected, questioned or otherwise responded to?

The importance of addressing intertextuality in the feedback interview can be seen in Extract 1, in which references to other texts make up a significant amount of the content. Attention to the way these texts are brought into the conversation can provide insight into the way the interaction is being framed by the two participants. The researcher, Chris (first author of the

current paper), has planned in this feedback interview to raise some challenging topics particularly around budgeting that have emerged from carrying out the research. He is aware that this is one issue which John, the CEO, is uncomfortable with, and is an area which has caused some friction in the organization. Reference to previous texts is used extensively in this introduction to maintain friendly relationships between the participants while introducing the idea that potentially challenging topics are going to be introduced. These references have been underlined in extract 1, with the specific texts being referenced clarified in the second column of the table.

Extract 1

Interview extract	Identification of texts referred to
<p>6. Chris [...] Now I did sneakily make sure we discussed <u>[mention of topic of previous interview]</u>⁽¹⁾ first, and I was glad that you sent <u>that very nice thing about me</u>⁽²⁾ yesterday (John: yeah, yeah), because (laughs) <u>today</u>⁽³⁾ I thought I'd save until last⁽³⁾ all the stuff that you least like. Is that alright?</p>	<p>(1) Reference to the previous feedback interview which addressed less challenging topics.</p> <p>(2) Reference to an email sent yesterday evaluating the interviewer positively.</p> <p>(3) Forward references to the coming interview as a text.</p>
<p>7. John: Yeah that's fine. I'm just refreshing <u>my notes</u> from what you said last time. OK.</p>	<p>Reference to material notes made as a record during previous interview.</p>

Here we see reference to both previous and upcoming texts being used to open up the possibility of discussing issues which are going to be challenging to John in this feedback interview. As Chris explains in turn 6, his plan for the forthcoming interview (itself a forward-looking reference to a text) is to raise some potentially challenging topics with John - 'all the stuff that you least like'. Chris refers back to a prior feedback interview with John in (1) by reminding John that other topics were discussed, providing an evaluation of his own decision to introduce those particular topics first as sneaky. Partly (why?) this is in order to contrast 'those other topics' (primarily positive evaluations) with the topic of today's interview, which, it is implied, will be different in some way. Partly this suggests that this sequencing of topics is in some way in Chris' interests. There is ironic humour in the words which are used here; of course, if Chris was really sequencing his topics "sneakily", he would not explicitly highlight this to John at the start of the interview in this way. This has the

effect of reinforcing the friendly and trusting tone which is being set up between the two speakers here.

The next text which is introduced ('what') is 'that very nice thing' which John sent to him yesterday; an email in which John evaluated the research and previous feedback interview in positive terms. This is referred to ('how') using the positive evaluation 'very nice', which appears to serve the purpose ('why') of introducing into the conversation a mutual positive evaluation which John acknowledges with an embedded "yeah, yeah". The effect of this is both to reinforce the existing positive tone of the conversation, and to mitigate the introduction of the potentially difficult topics which Chris plans to raise in today's interview.

The third text introduced in turn 6 is indeed a forward-looking reference to "today"'s feedback interview, introduced with the explicit warning that this will include "all the stuff that you least like". The proposed introduction of more difficult topics of discussion is therefore explicitly framed within the reference to the two previously positively evaluated texts, making salient these positive aspects and outcomes of the existing research relationship. This framing lessens the potential for the more challenging topics to introduce trouble into the friendly relationship between the researcher and the CEO which has been established, while also acknowledging that the topics discussed may prove to be more difficult ones for John. We can see here how Chris' intertextual introduction has made the subsequent introduction of challenging topics in this feedback interview conversationally possible.

By simply looking at these few seconds of conversation and asking which texts are introduced, how, why, and to what effect, we can see how reference to texts is used to construct and maintain a friendly and informal relationship between interviewer and interviewee, and to open up the possibility for discussion of challenging topics of today's feedback interview in a way which is not face-threatening for either researcher or interviewee.

The analysis of Worlds

The analysis of Worlds considers the figured worlds of the actors involved in the feedback interview, as well as the material and/or conceptual cultural artefacts that are social constructions or products of human activity, which also become tools engaged in processes of

construction (Bartlett & Holland, 2002). The concept of *Figured Worlds* as used by Gee (2011) represents the “simplified, often unconscious, and taken for granted theories and stories about how the world works that we use to get on efficiently with our daily lives” (Gee, 2011:76). It is through these, he suggests, that we build prototypical simulations of the world around us to help us make sense of events or information as it is presented to us (Gee, 2011:79).

What is absent in Gee (2011), and we introduce here, is the important role of *cultural artefacts* in our constructions of *figured worlds* (Bartlett & Holland, 2002). These artefacts can be material but are not necessarily. In our case these artefacts could be organizational concepts (eg. existing processes or management structures) or more individual ones (eg. the labels we attach to people or groups), but may also take on material form (eg. physical budgets or reports). In any event these artefacts “may become important in refiguring cultural worlds, giving flesh to new identities” (Bartlett & Holland, 2002:13). By drawing on the analysis of *cultural artefacts* as a central aspect of *figured worlds*, we address Fairclough’s (2005) call for greater attention to materiality and pre-established reality in considering the relationships between discourse and the pre-structured networks of social practices that constitute organizations (Fairclough, 2005:922-3).

We look at how the feedback interview relates to personal, organizational and wider social worlds, how these worlds and the artefacts within them are constructed, and how they might be changed to incorporate ideas being developed through this particular feedback interaction. Again, the ‘what’, ‘how’, ‘why’ and ‘to what effect’ questions can be usefully applied here.

What views or beliefs relating to organizational life or the structures and processes of organizing are apparent in the text?

How are these views being expressed, combined or debated by the interviewer and respondent?

Why are the discussions relating to internalised worlds or the practices and structures of organizing important in this encounter?

What effect does the use of Worlds have on both the interviewer and the respondent, as well as on the intervention process itself? How are any new ideas accepted, rejected, questioned or otherwise responded to?

In Extract 2, references to *cultural artefacts* as part of the *figured world* of the planning process being discussed in the interview have been underlined.

Extract 2

13. Chris So, budgets. Budgets and planning processes. I got (pause) again there's a bit of stuff that comes direct from other people here and a bit of my extrapolation of it and one of the things that I really (phone ringing 02:36) - do you want to answer that, you can see he's obviously desperate (John speaking on phone till 04.08). Budgets and planning all the boring stuff, what I I picked up a couple of things around budgets and planning from different people and the overall impression I got was that there isn't any kind of structured budgeting or planning approach when these things happen and that everything is created from square one every time and so what happens is if responsibilities aren't clear as to who's doing which thing then, and there's no sort of amounts of money set for certain people to do certain things and people don't own certain budgets, is that you get sometimes quite, sort of difficulties, tensions between the parties and also quite slow decision making. [Chris gives a long narrative account of an observed incident to support this claim.] what it got me thinking was that almost by trying to not enforce levels of management that could seem like micromanagement because you were saying OK you can spend up to this you have to budget I want a plan de, de, de, de, de, what actually happens is that operationally you get micromanagement because they aren't empowered to do what they want to do because it wasn't set up in the first place? Does that make sense?
14. John Yeah I understand what you're saying, I understand what you're saying. Um, I mean I think that's probably a fair, I mean certainly with relation to [this project, gives name] there was no pre, you know there was no sitting down and saying let's construct a budget for this, sort of thing. And if we had we'd have got it hopelessly wrong. I mean we had a kind of vague ballpark figure of how much it might cost, which was out by 100%.
15. Chris Yeah. But within that there are certain bands of things that they do every time.
16. John Yeah I think we probably could have sat down and, and, certainly by [pause] by the time that people like Dora were getting involved. Because for a long time, a

long time it was being, you know, sort of going through its political negotiation phase, plus of course the technical reconnaissance phase, right. And it only, then, there was then Clare got, was involved in some of the sort of, assembling some of the material and all of that. But by the time, I don't know, by the time we got to July when it was more likely than not that it was going to go ahead one could have sat down and constructed some sort of budgets that would have been helpful to people like Dora I've got no doubt. I mean I cannot impress too much how, the sense of suck it and see that that imbued this project and the notion that actually (sigh) provided people didn't do stupid things with the expenses, right, (Chris: they were all OK) we were going to get a very reasonable expense to fundraise ratio, (Chris: yes) which is kind of what happened. But I can see how if you were stuck in the midst of it it would have been a bit wary.

In turn 13, the principal cultural artefact being constructed and referred to repeatedly in slightly varying ways is 'budgets and planning processes'. Chris acknowledges John's distaste for dealing with this aspect of the business by evaluating it as 'all the boring stuff'. In particular, Chris is highlighting the absence of a structured approach to budgets and planning in his feedback and then identifying a range of negative consequences which follow from this, including interpersonal tensions, slower decision-making and the need for micro-management.

In turn 14, John picks up on the idea of a budgets and planning process but where Chris has introduced this as an abstract process, John makes it more concrete, highlighting the absence of the conversations which would have been required to construct this artefact - turning it more from a shared understanding of a cultural artefact into a reference to an (absent) specific text, moving from Chris' 'there isn't any structured budgeting or planning approach' to John's 'there was no sitting down and saying, let's construct a budget'. John invokes another cultural artefact, the 'ballpark figure', to justify this, suggesting that the rather less specific approach they had adopted of coming up with a general rough estimate led to a very inaccurate projected expenses figure, and implying therefore that the budgeting conversation would have been equally inaccurate if not more so. Here, he is resisting the figured world Chris has drawn in his previous turn which implies that budgets and planning are a necessary part of the preparation process.

Turn 16 shows John introducing new cultural artefacts as part of the larger figured world of the planning process, drawing on an underlying model of such a process consisting of different ‘phases’: here, ‘the political negotiation phase’ and ‘the technical reconnaissance phase’. Use of the definite article ‘the’ presupposes the existence of these as distinct and separate entities, and the implication of the subsequent ‘But’ is that budgeting is not, or should not be, a part of these kinds of phases.

John does introduce the budgeting process as something which could potentially have formed part of the next phase, once it became likely the project was going to go ahead, again referring more directly to the material activities of the people who would have been involved than in Chris’ more abstract references: “one could have sat down and constructed ...”. However, he then introduces a new and quite unconventional way of referring to the planning processes which characterised the particular project under discussion, as “the sense of suck it and see”. By characterising the project in this way, he is figuring the world of the project rather differently – not as a manifestation of an established set of managerial practices in which the budgeting process would take its accustomed place, but as an experimental one-off in which the usual budgeting and planning processes invoked by Chris would not necessarily have been appropriate. The final cultural artefact invoked by John here is the “expense to fundraise ratio”, a nominalisation of a final accounting of the finances of the project, implying that the yardstick for success of the project would simply be that this should be “very reasonable” and that it is more this evaluation than the more detailed setting of expenses against budgets invoked by Chris which would be important in relation to this project.

From this brief analysis, we can see how Chris and John introduce references to cultural artefacts in their interaction which invoke rather different and somewhat conflicting figured worlds of project management, with John resisting Chris’ underlying implication that budgeting and planning are a necessary element of this and constructing a different way of referring to the process which highlights an alternative perspective. The analysis of Presentations below will show more about how Chris moves on to challenge this.

The analysis of Presentations

The analysis of Presentations considers the wider social semiotic information contained in and around the text, in the form of symbols, ways of dressing, speaking or presenting that create an overall identity for the person, as well as the more detailed consideration of the

types of language being used and any specific meanings that the speaker or listener might attach to these. This combines Gee's (2011) *Discourses* (with capitalised 'D') tool with his *Social Languages* and *Situated Meanings* tools of inquiry. We are interested here in how the researcher builds up identities for themselves, for the respondent and the organization through the feedback, and how this is responded to, resisted or built upon as the interview proceeds. This requires attending to the situated meanings being attributed to different speech acts within the feedback interview. The researcher needs to look for how different 'social languages' are employed to enact or recognize different identities, and how these contribute to building arguments or different versions of reality (Gee, 2011:28) as part of the informing, educating and challenging agenda of the intervention. Within this category of Presentations we follow the same approach as with Texts and Worlds to construct our rationalized set of questions:

What kinds of language and ways of behaving are being used in the text?

How are certain ways of using language, or ways of behaving, being used to construct or respond to arguments, or to facilitate the feedback process?

Why are languages and behaviours being used in this way, given the relations being developed and the different situated meanings that they reflect in this organizational context?

What effect does the use of Presentations have on the intervention process? How are these ideas accepted, rejected, questioned or otherwise responded to?

We have already seen some examples of self-presentation in the text, for instance in Chris' self-evaluation as 'sneaky' in turn 6 above. At the very beginning of the interview we see how Chris and John's presentations of themselves contribute to the setting the tone of the interview:

Extract 3

1. John Sarah blew you out yesterday didn't she.
2. Chris Ah, it was outrageous.
3. John I was with her, she wasn't feeling very well.
4. Chris No that's alright, we've...

5. John We've been dogged by some persistent headache the last few days.
6. Chris We've re-scheduled for next week which is a shame because I was hoping to have some of Sarah's stuff to, to, to use against you. (John: To lob in (laughs))

John's use of the very informal phrase "blew you out" to refer to cancelling an interview indexes a friendly and informal conversational relationship. Chris' reply picks up on this relaxed tone, using the ironic hyperbole "it was outrageous" to introduce humour to the discussion. His subsequent "No that's alright" clarifies (should this be necessary) that this was not a literal evaluation, but he maintains the ironic humorous tone with the phrase "hoping to have some of Sarah's stuff to use against you", which John picks up with the inserted "to lob in", again drawing on an informal register of vocabulary. This informal, jokey tone frames the interview as a conversation between equals, friendly on both sides.

A little later in the interview Chris introduces some topics, as we have already seen, which are potentially challenging for John to hear. At this point, his self-presentation changes, as he explicitly signals his expertise:

Extract 4

17. Chris No. And this is where, the thing that I think of and this is maybe me being an accountant and also with my understanding of other people's perspectives on what accountants do, (John: mm-hmm) I see a budget as an attention focussing device, not just as a way of controlling people's money so that the process of putting together a budget or a project, a costed up project plan shall we say, the process is as important as the result.

In extract 4, Chris makes explicit reference to his identity as an accountant. The topic of this part of the feedback interview is, as we've seen in 'Worlds' above, budgets and the budgeting process. Both John and Chris have acknowledged that this is not John's preferred area of discussion and Chris has indicated that he sees this as a lack in the process of planning the project which Chris has been researching. Here, he is making an argument for the usefulness of budgets, and inviting John to see the budgeting process in a new way: not just as a means of control, but as a means of empowerment, to enable people to carry out their activities more effectively.

John is a highly experienced and successful CEO, and so explicitly critiquing his understandings of and practices around budgeting could be seen as being a relatively high-risk moment in the interview. By invoking his authority as a knowledgeable expert (“being an accountant”) as well as a researcher, Chris is claiming the epistemic authority to suggest his alternative interpretation of the function of budgeting as part of the broader project planning process. In extract 5, John does take up this interpretation – but only to an extent.

Extract 5

20. John Yeah, no I can see how that could actually leave people less empowered than they would have been if some of those responsibilities were clearer, I can see that. (Chris: but there’s a really interesting) And I can see how there would have been moments when that would have at best confused people. Personally for what it’s worth I would blame Andy for that in the sense that that, they were his, they were reporting in to him and those, Andy’s not big on processes of that sort. (Chris: So...) Though not as bad as, he can do it, but I could have helped absolutely. So I think, I think it’s a very fair observation.

He acknowledges the points Chris has made, particularly that people could have been confused about who had the authority to spend money. However he defends his own face by clarifying that he did not see this as his responsibility, rather “I would blame Andy for that”, though he does acknowledge that “I could have helped”. This is a crucial moment in the feedback interaction. In the way John presents himself and his responsibilities in relation to the company, he is still not taking on the role of ‘budget approver’ as part of his responsibilities as CEO, at least, not in relation to this particular project. Chris follows up on this self-presentation in the immediate next turn, in extract 6.

Extract 6

21. Chris Now I think you’re absolutely right in that it’s Andy’s baby but then at the same time without letting you pass the buck too much there are people who would say that if it was the biggest ever event that the organisation had ever put on should the CEO sign off on the budget, whatever that bu - you know, should the CEO

say to the fundraising director I just want to see the budget I want to sign off on this, so I know what's going on.

In the slang phrase “without letting you pass the buck too much” we see something of a return to the informal jokey friendliness set up at the beginning of the interaction. But here, Chris’ self-presentation becomes rather one of moral evaluator, arrogating to himself the right to hold John to particular standards of behaviour and responsibility. He picks up on John’s attribution of responsibility in “blame Andy” and reformulates it, characterising it as ‘passing the buck’ ie avoiding a responsibility which should be his, though again this mitigated with negation rather than being expressed as a direct accusation (Chris does not say “you are passing the buck there”, for instance). In developing this point further, Chris does not present himself as the author of the criticism he is making here, rather uses hypothetical reported indirect speech to convey it: “there are people who would say that if it was the biggest ever event... should the CEO sign off on the budget”, framing the main point in the form of a question (“should the CEO sign off”), rather than a statement. This potentially makes the criticism easier for John to accept, where a direct face-threatening criticism might be perceived as an attack and responded to more defensively.

The final turns of the interview in extract 7 show that Chris’ attempts at reframing the concept of ‘budget’ for the CEO have had some success, but only to a qualified extent. At the end of the extract John acknowledges that a budget could be helpful, but is still expressing this in terms of “expenditure limits”, “making lines of responsibility a little bit clearer”, and having a budget as a sort of guide which shows you why you deviate – still avoiding taking on the cultural artefact of the budget in the way Chris has been presenting it. (These statements are also carefully hedged with “I think” and “a little bit”, with a noticeable amount of repetition and hesitation.) In this turn, John has not – yet – fully taken on board Chris’ suggestion that budgets serve to empower people, as well as to responsabilise and inform them.

Extract 7

22. John Yeah I think, winding the clock back I don’t think we ever seriously entertained, I’m not sure how amazingly helpful it would have been to have set a budget as such, but I think, I think some sort of expenditure limits and, and, you know, so people knew, and some maybe, a little bit, a little bit, making lines of

responsibility a little bit clearer could have been, could have actually helped people get hold, I totally accept that. I kind of think that if we'd sat down, even in July and said right let's throw a budget round this, well I suppose we could have done, we could have had something, a guide.

23. Chris Or even just say you know a costed up project plan, call it what you like.

24. John I see, I don't use budgets as a kind of, a sort of limit, they kind of tell you what you think and then you, sometimes it's necessary to impose strict limits, other times it's more about well OK we have a guide and then it's understanding why you deviate from them one way or another, that's actually where there's valuable stuff.

Next stages of analysis

These small, illustrative examples show how quickly it is possible to draw out a deeper understanding of the intervention process through close textual analysis using the FDA Framework. In reality the full analysis might look at Texts, Worlds and Presentations across the entire interview text, using the four questions to draw out a rich picture of the way impact is taking place, being resisted or transformed as our etic perspectives interact in the moment with the emic perspective of the CEO. For the interventionist researcher this rich picture can be considered as a first phase of analysis, to then be viewed through whatever theoretical lens is considered most relevant to this situation. For the interpretive researcher the insights gleaned from FDA will be valuable data, to be incorporated into the abductive theory development process and used to guide any amendments or refinements of the final research outputs, or perhaps the direction of travel for the next stage of a research project. At a meta-level, this close analysis of the feedback process gives the individual researcher a valuable opportunity to reflect on their own performance, and a language to use when attempting to codify and share ideas about the practice of delivering impactful feedback.

C6. Conclusions

We argue that as researchers our ability to deliver value back to an organisation, to use our knowledge to inform, educate and improve society, is something that can and should begin at the research site itself, before we move to the production of written academic outputs or the teaching of students. Such immediate action is much more than a mere act of academic consultancy, rather it is a route to improving the plausibility, validity and hence the value of our own work whilst also generating value in the organization that has allowed us to do our work in the first instance. Whilst the use of linguistic analysis in accounting research has been relatively limited to date, the application of these deeper forms of analysis to texts such as those created by feedback interviews can play important and multiple roles.

There are, however, important ethical issues to consider when moving into such an intensive, interactive process. The example text from our analysis here shows the researcher citing certain comments made by staff within the organization, and raising issues that were observed during staff interactions that took place away from the CEO. Before building such data into any feedback the researcher must make an active, considered decision about the ethical implications of using such information and consider whether, or to what extent, it may have an impact on the individuals being discussed. Beyond this consideration of ethics at the level of the individual we must also be vigilant about our potential impact on the organization. On the one hand it is flattering to be listened to and to have our expertise respected and used in practice, but on the other it imposes a more specific duty of care on the researcher to wield this new power with caution and to ensure that safeguards are in place if they believe that their advice may have an undue influence on the organization or its members.

The FDA Framework we present here provides accounting researchers with a rationalized, practical and easy-to-apply toolkit for the analysis of organizational discourses, in particular in relation to feedback interviews. Although it has been developed with these particular encounters in mind, by providing a clear and comprehensive audit trail that links the framework to authoritative methods and guidance from within the linguistics research community, we aim to make future adaptations relatively easy to develop. We hope that future researchers will consider in particular the focus of the reality-building questions of *How?*, *Why?* and *What Effect?*, and revise them to address the specific issues of concern in whatever text they are studying, whether it is, for example, the transcript of negotiations of

meaning in a budgeting meeting or debates about accountability and performance in an executive committee.

There are also opportunities to use this framework as an attention focussing tool for the researcher when analysing earlier, rather than later, interviews within a study. By exploring in depth and detail these early interviews we can create a greater understanding of underlying organizational, personal or interpersonal issues that could be explored further. These are just some examples of possible applications, but we suggest that the real value of the framework lies in its combination of methodological robustness and application flexibility; as such any attempt to be prescriptive about its uses at this early stage would be unwise. Rather, we hope to see it applied creatively as an addition to the extensive methodological toolbox that is available to accounting researchers.

Part D: Conclusions

This thesis has used two major case studies, carried out at different times and in very different industries, to draw out new understandings of accountability, performance, and the management of these at both the firm and ecosystem level. The main theoretical conclusions from these studies are shown above in part A and then part B, which also draws together the wider contribution from both sections.

The conclusions in this final Part D will highlight the main outputs from this research, consider their limitations, and what work might be done to develop or improve the theories being created from this work. In addition to looking at what work can be done to continue this research, this section also looks at what work has been done, and can be done in future, using these outputs to generate real value in society. There is a danger that research agendas can become introspective or theory focussed, when in fact it is important, at least in the opinion of this researcher, that as new ideas are developed they are tested, used and subjected to practical critique in the wider world. The notion of impact in the world is not a new one for academic institutions, but possibly less written about in a PhD thesis. However, since this document specifically concerns itself with feedback methodologies that act to support practitioners and researchers alike, a concluding section that includes some consideration of research impact is appropriate.

Part A Conclusions

The three separate but connected contributions from Part A each offer new, structured, and holistic approaches to the analysis of accountability. The theoretical framework developed at the front of the document, prior to any empirical analysis, is an important drawing together and effective clarification of a wide body of theoretical knowledge on this subject. In particular this highlights an alternative way of understanding control systems, using a human-centred rather than organisation-centred approach. This perspective allows us to focus on the individual as we consider all the different formal and informal, internal and external (to the individual and the organisation), forms of accountability that affect decision making behaviours, or cause stress or other problems associated with excessive or uncertain accountabilities.

The outputs of the research include another two other important analytical tools – the framing of the process by which accountability systems are created, and the 5-part typology of different managerial approaches for accountability. This is interesting because of its link to the linguistic studies that underpin Part C of this thesis: it is through language that accountabilities are repositioned, quite frequently, when the acts themselves do not change, nor do the risks or rewards associated with them. Accountability management appears to be a creative linguistic art, mastered by people such as the CEO of a successful charity, who presumably uses these forms of persuasion all the time when working with trustees, donors and others who have no contractual or hierarchical relationship with the organisation.

The typology developed here is useful when analysing acts of accountability management, but it may be limited in its ability to guide such acts because of the need for a nuanced use of language when communicating these different positioning messages. This is a general limitation of this research output – whilst the typology highlights the nature of the different forms of positioning interventions that can be used to manage accountability, it does not consider how they might be weighted or scaled for best effect. Further research is required, taking a close look at the communications and associated management approaches utilised by different individuals, in different circumstances.

The process model of accountability system development - convening, constructing and managing - similarly requires more evidence in order to make it a robust and practically useful tool for researchers and practitioners alike. We know that we can analyse different systems and make some comparisons between different stakeholders in a collaboration, but it is still a challenge to demonstrate clear system typologies that guide the study of inter-organisational systems development. The theory developed in this thesis talks about the level of alignment between the vision, goals and management control approaches of the new collective venture and each key stakeholder, but again there is a scale problem – what level of difference between systems causes problems?

The ideal types suggested by Broadbent and Laughlin (2009) may be a helpful start point here, as certain characteristics are described as being embedded within each type, but this theory, which they describe as ‘middle range’, needs to be developed further. None the less, in its present form it has been used along with this notion of systems interactions by this researcher to assist with the analysis of, and subsequent feedback to, a large NHS Trust. In that study (which took place at the same time as the PhD studies) the interaction of control system contexts was highlighted to the executive board as a way of helping them to

understand some of the tensions in their organisation, using the terminology of ‘communicative’ vs ‘instrumental’ rationalities as employed by Broadbent and Laughlin (2009). The multi-organisational aspect of this study stemmed from the fact that this NHS Trust had been highly acquisitive, and so the separate systems of the head office, the regional hospitals, and then the powerful commissioning groups who have their own performance demands and approaches, all interacted in ways that yielded certain unusual, even dysfunctional behaviours, that needed to be better understood by the Board. This model of systems interactions was well received and considered to be a powerful start point for a meaningful discussion on this topic at board level.

Part B Conclusions

Part B of the thesis moves the analysis beyond the time-limited setting of a single collaborative project, and into a domain where there is a single “grand project” and, nested within it, the intention to facilitate the development of many more inter-stakeholder collaborations. Whereas Part A dealt with something that was relatively straightforward in terms of intended outcomes and the types of control used in this relatively short timeframe, we now have more complex agendas, stakeholders operating to very different clockspeeds, and with a range of micro and macro views of what success looks like for them.

It is worth restating the research question here, then seeing how far this thesis has come towards answering it:

How is performance understood and managed within a network incubator JVO?

There are two clear components here that can be addressed in turn – firstly, how is performance understood, and secondly, based on these understandings, how do the managers of the network incubator JVO set about managing performance.

In the previous analysis and discussion shown in Part B of this thesis, two models were developed that provided to be important and useful in explaining the vision, values and activities of this research site. These models, which were so well received by the community of scientists to whom they were presented, are those shown at Figures 4 and 5. These models provide the framework for building the answers to this research question, which will be developed below. They each serve a different purpose in these conclusions, with the “Place – Process – Ecosystem” model (figure 4) leading towards an understanding of performance,

and the “Science Centred Open Innovation” model (figure 5) leading towards a better understanding of how performance is managed.

The place-process-ecosystem model was developed to show different understandings of the role of an incubator. The model highlights the importance placed on process improvements in the network incubator JVO setting, supported by carefully selected and limited place based metrics, in order to generate a strong ecosystem over time. The model clarifies the elements of a shared vision of how an open innovation network incubator should function, and what it should be working towards as its long term goal. It also focusses attention on multiple forms of value creation other than financial returns through rental income: The financial returns that are valued are those that accrue through a process of scientific advancement, supported by a strong incubation process, and yielding an increasingly well connected and supportive network that can generate even greater scientific and financial gains in the longer term. What that model does not quite achieve is the clear representation of these different forms of value creation and their interactions, to show how performance is understood, and that is what is now offered in these final conclusions. To do this we return to the previously introduced notion of scientific capital, and also deploy the concept of social capital as it was introduced by Coleman (1988) and further developed by Burt (1992) and subsequent others. The combined concepts of financial, scientific and social capital give us a way of representing and more clearly articulating the way value is created, and through this, the ways that performance is understood. This is explained below.

The analysis and subsequent discussion in Part B highlighted the importance of first addressing the highest level elements of the Ferreira and Otley (2009) framework, looking at the underlying visions and goals of the funding stakeholders when they set about creating the JVO. This analysis was applied not only to the central organisation but also its various funders, and other stakeholders. An unfolding aspect of this research was the realisation that to fully understand the notions of performance that are important in this context, it is necessary to take a broad view of value creation. In particular it is clear that the ‘normal rules’ of performance management have emerged from research that primarily takes place in single organisations with a clear focus on value as a financial concept, and long term profit maximisation as an ultimate goal. In this study we see a change in these two most basic parameters – single organisation plus accumulation of financial capital for shareholder benefit – to an ecosystem view where the perceived success of one entity (the network incubator JVO) is quite different depending on the different stakeholder perspectives: In the

eyes of its funding stakeholders success rests on the cumulative scientific rather than financial advances of its tenant stakeholders, whilst those tenants may see success as being much more a combination of financial and scientific gain, as they seek to convert their embryonic ideas into valuable bioscience innovations. Amidst these different perceptions the JVO itself is somehow devoid of its own inherent success measures, being in existence to serve others and to be appraised on its ability to do so effectively.

The analysis in Part B continued by stepping back from established frameworks for performance management to first ask what value is being created and for whom; In other words we must first unpick the business model of a network incubator, its links to its ecosystem, and its multiple goals. In this way the analysis was able to identify the multiple forms and directions of accountability embedded within this networked setting, and work with this understanding to then analyse the approach to performance management.

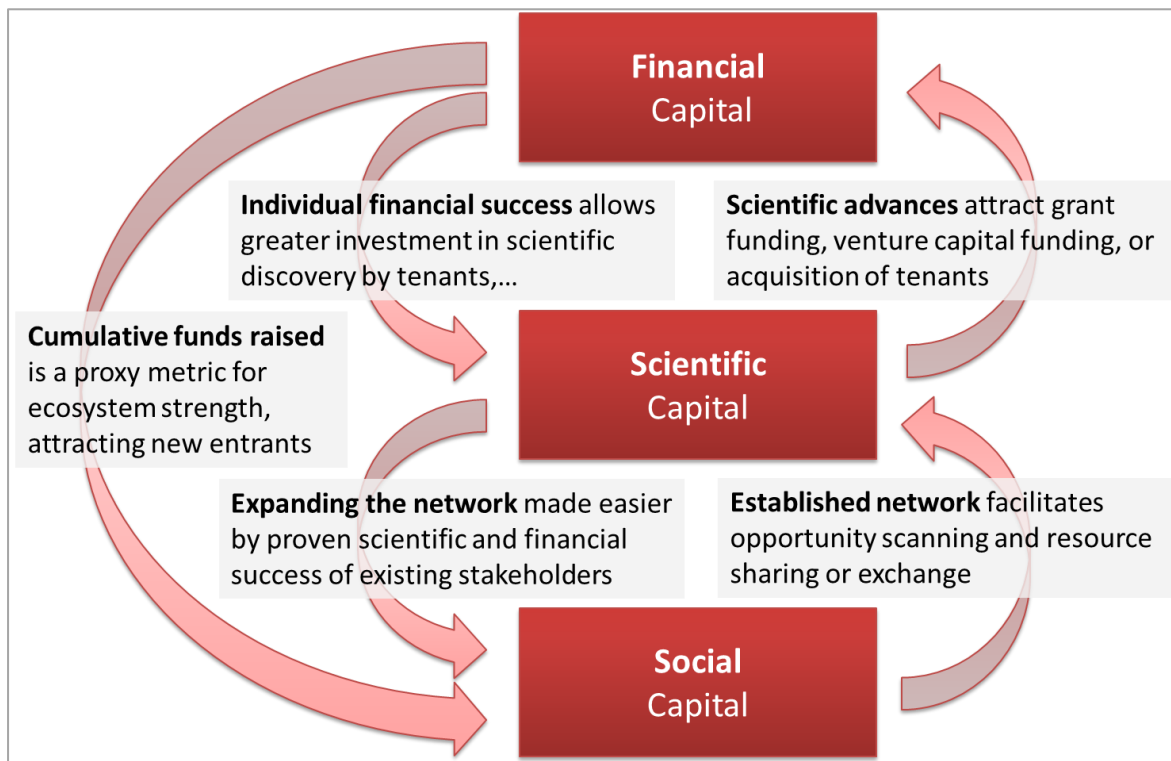
In this instance the more established business model theories did not easily yield the guidance required from this part of the study, focussed as they are on single entities, and on financial value creation, capture, and distribution. It is through this process of first understanding visions and values, then accountabilities, then the different activities that are the enacting of the business model that this study is able to offer the science-centred business model presented in figure 6. Central to this is the notion of Scientific Capital, which emerged as a powerful explanatory concept, as it gives us a form of capital maximisation, alternative to accumulated financial capital, to focus on as an important goal for all stakeholders. However, the route to capital maximisation – both financial and scientific - is not a direct one, as the open innovation intentions of this network incubator JVO are so well embedded in the business model that they play a significant role in the way value creation is understood and enacted. Unlike the Ferreira and Otley (2009) performance management model where vision flows down to strategies and goals in a relatively linear way, in this case it is the interactions of different visions and value creation aspirations that dictate the business model here, and from this an understanding that the incubator management team are accountable for supporting the achievement of these multiple, separate visions of success held by different stakeholders.

This brings us to the issue of networks and their role in value creation. In this we are interested in networks that exist within the tenant group and its established stakeholders, and those networks that exist separately from this, within the wider bio-scientific community. As a precursor to successful long term growth in scientific capital, the JVO management

explicitly believe that the creation of the right networks to enable open innovation to flourish is an essential aspect of their work. This term open innovation can be understood in many ways, but for the purposes of this site of interest it is strongly linked to the development and exploitation of networks. The network-oriented ambitions of this incubator are broadly twofold: 1) to encourage beneficial interactions within their community of tenants, supportive scientists, business advisors and funding organisations, whilst at the same time 2) being effective at reaching out to find the best new members for that network to allow it to grow and sustain itself in the future. For a network incubator to be deemed successful it must be able to create, in its early years of life, and then sustain a network that has real impact on performance, enabling greater levels of scientific and financial advancement than would be possible if these organisations existed outside of the network. This brings us very close to the concept of Social Capital, which has been defined as “the sum of the actual and potential resources embedded within, available through, and derived from the network of relationships possessed by an individual or social unit” (Nahapiet & Ghoshal, 1998). In this case we see social capital in both its bridging and bonding forms (Adler & Kwon, 2002): It is the ability to bridge between this network and valuable others, combined with the ability to form strong bonding links of trust and co-operation within the network, which provides the basis for successful open innovation to take place.

From here we can build a simple three-capitals model based on these three forms of capital accumulation and their interactions. This model illustrates how performance, in terms of value creation through capital growth, is understood at the level of the network incubator and its funding stakeholders. The model is shown in figure 7 below:

Figure 7: Capital Accumulation Model of Ecosystem Performance



This model of capital accumulation offers a parsimonious, visual interpretation of how performance is understood within the JVO. Each of the three forms of capital is important but equally, if any one were missing the venture would not be seen as a success by any of its major stakeholders. Looking at financial performance of individual tenants it may be unclear, initially, why the funding stakeholders would view this as a critical success factor since they do not own or have any stake in the tenants, but are only interested in their scientific offerings. However, in the biotechnology community the product development cycles are so lengthy that investment levels are a very important proxy for scientific success, or probable future success. The accumulated success of incubator tenants is a strong signal to current and existing funders that their investment in the JVO is proving to be worthwhile, and an equally powerful signal to the critical yet silent stakeholder group – scientists currently thinking about spinning out ideas from universities or established biotechnology companies. These latent, as yet unidentified, stakeholders will want their ideas to have the best chance of success, and so for the network incubator the goal of becoming the “incubator of choice” for such scientists allows them to be selective about tenant selection. This creates a strong virtuous cycle of successful innovations, future funding streams, and ever increasing attractiveness to the most likely scientific prospects of the future.

What this model offers us is a snapshot of the cycles of capital growth that underpin the way value creation is understood within the network incubator setting. However, what this does not highlight are the different lifecycle stages that occur, and how these are reflected in different expectations of performance, and of performance measurement and management. It appears from this study that at the initial investment or commitment-to-collaborate stage it is sufficient to have a more or less shared vision for the new enterprise and some aligned, if not common, goals in order to allow progress to be made with the running of a joint venture. Separate institutionalised norms can be held in abeyance on the understanding that the new venture is an experiment, and needs certain freedoms to develop its business model and explore different ways of working, creating value, and accounting for its activities.

Drawing on this idea of the integrated body of accountabilities that compose a normalised systems of accountability (Messner, 2009) it seems that this holding back of the systems of the founding investors to allow the new venture to flourish is an important aspect of the first stage of the life of the JVO. In order to achieve its ecosystem oriented goals the JVO management team is then free to develop their clan-based control system, one that we can explain through the Conceptual Model (Broadbent & Laughlin, 2009) as being highly relational, and based on shared modes of rationality. However, over time the experimental phase ends – whether or not such a phase was ever explicitly agreed upon or noted down in any board minutes or strategy documents - and we see stakeholder expectations of accountability begin to return to their own normalised views, as they experience them within their own firms. What this means for a JVO network incubator is largely dependent on how their performance management system has developed through time, and how strong the gravitational pull is towards compliance with more technical stakeholder system.

In this instance we know that some efforts were made to pre-empt the need for greater alignment with the more technical accounting language of funding stakeholders, but we also know that these efforts were largely unsuccessful in some areas, particularly metrics for open innovation. As stakeholders begin to expect more accounting in the language they understand, in technical form rather than narrative form, with metrics of performance rather than case studies of successful activities, so they exhibit interest in the elements further down the Ferreira and Otley (2009) chain. With this shift comes a desire for clearer targets, and a tighter definition of objectives that may previously have been left deliberately unclear (for example – to be an ‘Open Innovation catalyst’ without defining what that means, or what open innovation does, or how it measures its success at doing it). As boundary spanners

change so this iterative process of ongoing accountability management becomes harder for any collaborative venture, because those original lines of accountability were infused with the belief-based view of control that was in place when they were formed. New lines of accountability, through new boundary spanners with new agendas and not necessarily shared beliefs, tend to require much greater attention to technical systems as they are already developed in the founding investors' own organisations, including metrics that perhaps ought to have been developed even while the belief based system appeared to be good enough.

The conclusions help us to better understand the evolving nature of control in these complex, multi-organisational settings but they are naturally limited by the scale and scope of this project. It was not possible to carry out an extensive review of all control systems and control cultures in every organisation related to the study, nor was it possible to repeat this across other collaborations in other industrial contexts. Whilst the use of feedback interviews and presentations certainly suggests that these ideas have some perceived value across a broader domain, those contacts need to be followed up, turned into fully fledged research projects, and used to guide the next stages of close investigation of this phenomenon.

The other conclusions of this Part B are more immediately useful, in that they take the established control theories such as Balanced Scorecard and step back to ask the question: what business model and what accountabilities underpin this? The rapidly expanding, but still relatively new, business models literature did not play a significant role in the development of previous control theories, and the origins of those control theories tends to suggest that the business models that are assumed within them are relatively traditional in nature. When we encounter collaborative ventures with no profit motives but rather a desire to create and distribute value across an ecosystem, we see how much work is required to map, understand and validate the business model before control system analysis can really be meaningful. None the less the need to look first at vision and goals highlighted by Ferreira and Otley (2009) still rings true, but now it must happen on multiple levels as stakeholders' separate visions, shared visions for the ecosystem, and shared visions for the JVO, all play a part in this form of analysis. Establishing some clear understanding of these visions can, as in this case, give us the opportunity to build a parsimonious model of how people talk about value creation and the kinds of value they wish to see maximised.

The greatest limit to this research in Part B is its emergence from one very specific and specialist industry, and one very unusual site of activity. Whilst well received in its current form and current context, there is a real need to adapt or refine these ideas through a similar

study in a multiple contexts. The interest shown in this research by other locations and managers is a good start point for this progression, and as this thesis comes to its completion an initial agreement is being reached for a 4-site study to continue this work. The ideas as they stand now are useful and interesting to practitioners and hopefully to academics alike, but in places they are too context specific and in need of greater input from a range of very different sources. Only then will it be possible to build a more robust, holistic understanding of what are clearly important issues for both industry and academia: how do performance management systems come together and function effectively together? how does open innovation manifest itself in such collaborations in a way that allows systems to be built to measure and manage it? What is the lifecycle of these multi-stakeholder systems of accountability and how can future tensions in the system be pre-empted by managers as they seek to protect the longevity of their endeavour?

Fortunately the efforts made by this research to deliver value back to the ecosystem, through various forms of feedback encounter, have secured access to a range of organisations to allow this work to continue. These feedback interactions have also secured the researcher some level of expert standing within this community, making access to these very busy people increasingly easy to achieve. This interaction between feedback and future research is discussed further below.

Part C Conclusions

The methodological contribution in Part C is important in this thesis as it is so strongly informed by Part A, and informing of Part B. It comes from the author's own desire to take research-based ideas and make them instantly applicable and valuable, not just in the world in general, but for those individuals who gave their time to support the research in the first instance.

This methodological work is quite original for a number of reasons: the use of linguistic analysis is an area of emergent theorising in the management literature, but currently almost entirely absent in the accounting literature; furthermore, the idea of interventions and interventionist research is very much lodged in the northern European tradition of extended, natively embedded research activity; the suggestion of using feedback to managers as an explicit route to theory validation is touched on in several papers, but the process is never explicated nor formally studied to see just how effective and meaningful such encounters might be. All of these issues are addressed in Part C and it is hoped that the outputs of this

paper can find their way in to methodological teachings of young researchers, those who are developing their practice and keen to adopt or experiment with new techniques.

It has been the experience of this researcher that the use of this method is not only very useful when dealing with complex situations, where validation from practicing experts is of great value. It also opens the door to many new research possibilities, and builds a level of intellectual trust and understanding between the researcher and research subjects. The work at this JVO site continues now, and the CEO has thanked the researcher for making him look good in the eyes of his peers for engaging in high quality research, and opening his organisation up to academic critique. It is this kind of trust that allows a researcher to increasingly become positioned as a socially trusted insider, to gain access to the more nuanced forms of accountability and management activity that takes place. When so much organisational activity is based on values, on clan controls, on networks, reputation and personal influence it is essential to build these relationships. Taking a “give to get” approach through valued feedback is a clear route – of course only if the feedback is valued.

One limitation of this methodology is its current limited use in the researcher’s own work. The only detailed linguistic analysis of real, natural text is that which is used in the thesis to develop the theory, based on the feedback interview with the CEO of the charity in Part A. The inability to audio-record the discussion when feedback was given for Part B means that, whilst the ideas, underpinning theory, and forms of analysis from the method can all be used, the close linguistic study that characterises this approach is missing. It may be that some variant of the method needs to be offered to readers to allow for this alternative way of working, where feedback is given and evidence secured through written notes, rather than allowing the methodology to apparently fail or become of no use if there is no recording available.

In summary, the production of this thesis has allowed for the exploration of some fascinating organisations, many interactions with interesting and diverse groups of people, and the application of some interesting ideas to real-world problems. It has offered me the chance to explore qualitative methodologies in great detail, to develop an understanding of alternative disciplines such as linguistics, innovation and a wide range of management areas, and test my ideas in the field. Almost as much has been left out of this thesis as has been left in, and those areas are, I hope, ripe for future academic discovery.

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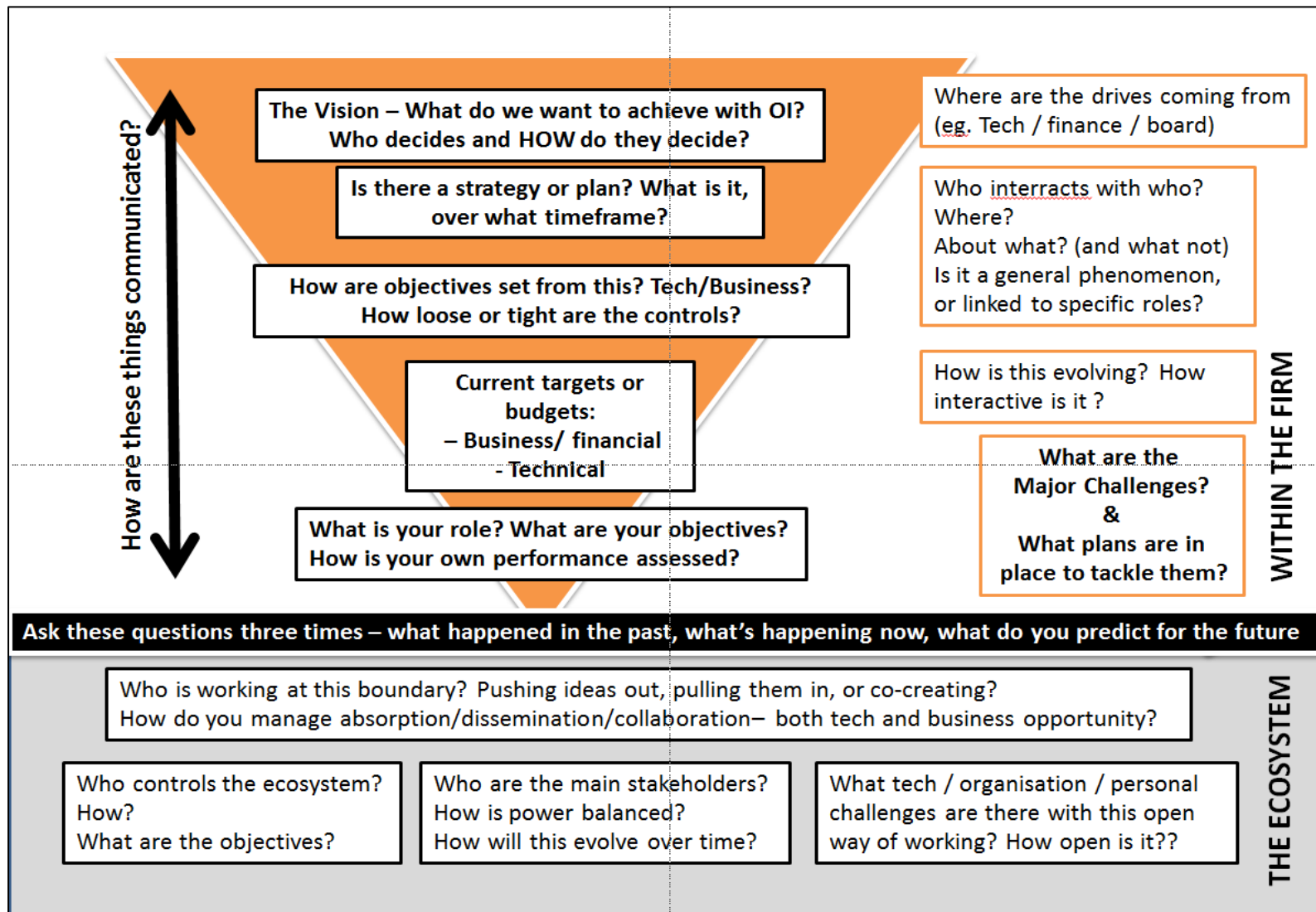
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Appendix I: Visual Interview Guide



Appendix II: Sample Question Guide

1. Organisation

Context

Individual

Role (in company/consultancy/etc), how long held, previous places of work

Experience in this field, how long involved, how much time devoted to this or other projects now

Organisation

Name, type/products/services, size, geographic location(s), years in existence

Time involved in this industry

Overview

Why are you involved in / running this Oi centre?

What do you want to get out of your involvement? How is this incremental to not being involved?

How do you know you are getting the results you want/need? (qual / quant mix) How is success measured in your organisation?

Who is accountable for the performance of this initiative? In what way is accountability maintained?

Where is success (or failure) coming from? Which particular activities / connections / business models (and what proportion)?

When did this start to 'work' or when do you predict it will generate clear returns?

Over time, how stable are the answers to these questions – what changes have happened, and are happening, and are expected in future?

Organising

In simple terms, who speaks to whom, and how do these connections come about?

What are people open about, and what are they closed about, and who is entrusted to make these decisions?

How does information flow, both around the system and within the companies (both large and small)?

Is being OPEN a general phenomenon, or restricted to certain people?

Are there any 'rules of the game' that are either formally agreed or implicitly accepted by the community?

Appendix II (cont)

2. Ecosystem

Overview

How would you describe the innovation ecosystem here at Stevenage?

- Who is involved, who are the big players / small players / side players
- What roles do they play within the system
- How did the system take shape and does it now seem stable, how so
- What is the measure of success for this ecosystem – is it clearly defined
- Are there actual metrics, or is it wrapped up in a longer term vision, and if so how will you/government/other stakeholders know when the goal has been reached
- Is it a good place to be right now, what are the pros and cons

Management & Interactions

Who manages the ecosystem, and how, and to what end?

- Does anyone 'own' it in a formal or socially accepted sense
- What formal structures are in place (eg tenant selection) to control the system
- Are there formal or informal processes that help keep the system 'on track'
- Who decides on the tenants at the park – what are the criteria
- What, if anything, is expected of a good tenant, and how are expectations projected
- What are the 'carrots' and the 'sticks' used to keep the OI ecosystem wheels turning

How do you personally, and your organisation, interact with the ecosystem?

- What **do you, in particular**, want the ecosystem to do
- How **do you** make that happen
- Where does **your influence** or authority come from
- How closely **do you** follow what others are doing
- What system **do you** have for this (formal or informal)
- Same three questions as above, but for major **other people** in the system

External Connections

How do you, or the ecosystem, connect outwards beyond this park?

- What other companies or groups of companies are important to be connected to
- Does being here give you better / worse / no different access to others
- Are there any formal / informal ways that the ecosystem connects to others (eg invited speakers or events, collaborative engagement with external parties)
- What systems, either formal or informal, do you employ (or tap into) for this

How do other individuals, companies, universities etc connect in to the park?

- Are there any collective relationships, managed centrally
- Does the ecosystem help or hinder relationships with visiting academics/business
- Do visitors utilise the hub-like nature of the site to their own benefit, how
- Are there disadvantages, are you located next to competitors who can take your contacts
- How do you manage these potential benefits and conflicts:
- what systems or controls to you have for this

Appendix II (cont)

Questions from Performance Management and Control / Open Innovation Perspectives

Strategy & Implementation

[Ferreira and Otley (2009); Davila et al's (2009) interpretation of Damanpour (1991)]

- How formal / informal are the strategies and controls – do you have clear targets to achieve, or loose ones, or is it more about being part of the process at the moment?
- What do you want / need to achieve over the next 6 or 12 months? Is there any kind of series of targets/timelines?
- Are the outputs defined by technical readiness stages, costs, business value assessments or some combination of these?
- Is there a long term goal, some overriding vision or objective? Who has set this and how has it been communicated to you / across the organisation / externally?
- How are these strategies / plans set and then communicated?
- What do you think are the key factors that will bring success?

Interactive / Flexible Systems

[Bisbe and Otley (2004), Simons (1995), Davila et al's (2009a) interpretation of Ouchi (1979) and Weick, Sutcliffe and Obstfeld (1999):]

- What kind of management structure is in place around OI activities, both within your organisation and across the wider network?
- How was this structure set up, or how did it evolve, and how flexible is it as things change?
- Does this way of working reflect normal operations, or previous projects, or is it entirely new and different?
- How are opportunities for technical or commercial benefit identified and acted upon?
- What flexibility do you have to manage your own time / involvement?
- Where are the limits to time/budget? Who sets these and how do they get reviewed?

Collaboration Approach

[Davila et al's (2009a) interpretation of Abernethy and Lillis (1995) and Amabile (1998), CF pilot study on accountability in Open Innovation]

- What groups both inside and outside your firm do you work with?
- How much collaboration is there with external organisations – whether formal or just informal between you and people you know?
- What work gets done where (eg at conferences, online debate, solo working at home/office, idea sharing in other forums)
- What are your motivators? (eg. bonus/share options vs personal/community)
- What commitments do you make to the network, and are they enforceable or does it rely a lot on goodwill? What happens when people fail to deliver on promises?
- What contracts exist, if any?
- What kinds of issues/tensions does this bring, if any?
- How is IP protected / shared / kept open?
- How is existing IP protected if it's needed as background?

Appendix III: Nvivo Coding Example

Nodes

Name

- Academic or Theoretical References and Analysis
 - Academic - OI
 - Academic - Social Capital
 - Academic - Intellectual Capital
 - Academic - Human Capital
 - Academic - Dynamic Capabilities
 - Academic - USPs and RBV attributes
 - Academic - ROM
- Accountability
 - Acc - barter
 - Acc - face to face
 - Acc - gift
 - Acc - personal
 - Acc - social or reputational
 - Acc - structural
- Business Models
 - Biz Models - Uni Campus model
 - Biz Models - Stevenage Model
 - Biz Models - other pharma
 - Biz Models - SBC Tennants
 - Biz Models - Academic researchers
 - Biz Models - GSK
 - Incubators
- Clusters
 - Clusters - development of clusters
 - Clusters - exemplars
- Culture
 - Culture - GSK
 - Culture - AZ
 - Culture - NIH
 - Culture - SBC
 - Culture - Academia
- Funding
- Impact
 - Impact - Economic
 - Impact - Political or UK wide
 - Impact - Personal
 - Impact - Reputational
 - Impact - Scientific
- Lifecycle
 - lifecycle - ecosystem
 - lifecycle - organizations
 - lifecycle - products
- Metaphors and Meanings
- Networks
 - Networks - Influential people
 - Networks - formal structures
 - Networks - informal structures
 - Networks - change and development
 - Networks - contributors and cheerleaders
 - Networks - funders
 - Government related issues
 - Networks - boundar spanners
- Organization Design of Flagship
 - OD - Governance
 - OD - Informal structures
 - OD - Key players
 - OD - Management structure
 - OD - Organizational learning
- Performance and Management
 - Perf and management - Flagship and ecosystem
 - Perf and management - Big brother funders
 - Perf and management - silent funders
 - Perf and management - users or tennants
 - Perf and management - Assets and IP
 - Perf and management - academia
 - Perf and management - intrinsic motivations
- Space
 - Space - Invocations of space
 - Space - Place as Physical structures
 - Space - Place or Location
 - Space - Spatial scales
 - Space - virtual spaces and thought spaces
- Startups
 - startups - creation
 - startups - exit strategy
 - startups - motivations
 - startups - support and services used

Appendix IV: Sample Text for Feedback Discourse Analysis

Transcription conventions

- , short pause
- (pause) longer pause
- [] transcriber has changed words for anonymity
- () overtalking or non-verbal input

1. John Sarah blew you out yesterday didn't she.
2. Chris Ah, it was outrageous.
3. John I was with her, she wasn't feeling very well.
4. Chris No that's alright, we've...
5. John We've been dogged by some persistent headache the last few days.
6. Chris We've re-scheduled for next week which is a shame because I was hoping to have some of Sarah's stuff to, to, to use against you. (John: To lob in (laughs)) Now I did sneakily make sure we discussed [mention of topic of previous interview] first, and I was glad that you sent that very nice thing about me yesterday (John: yeah, yeah), because (laughs) today I thought I'd save until last all the stuff that you least like. Is that alright?
7. John OK. Yeah that's fine. I'm just refreshing my notes from what you said last time.
OK.
8. Chris Yeah, do you want to have a quick review over that?

9. John No, no, it's fine, no, it's all very clear and there was plenty in there that I, um [long pause, as John reads notes] like and, and is useful to me so no need to go back over that stuff. So let's get to the other stuff then.
10. Chris I was going to say so what did your wife say?
11. John Actually we had a good chat about it actually when we were walking up [place] the other day. So part 2.
12. Chris Part 2.
13. Chris (John's phone ringing 02:04). I'm assuming that's you? (pause) So, budgets. Budgets and planning processes. I got (pause) again there's a bit of stuff that comes direct from other people here and a bit of my extrapolation of it and one of the things that I really (phone ringing 02:36) - do you want to answer that, you can see he's obviously desperate (John speaking on phone till 04.08). Budgets and planning all the boring stuff, what I I picked up a couple of things around budgets and planning from different people and the overall impression I got was that there isn't any kind of structured budgeting or planning approach when these things happen and that everything is created from square one every time and so what happens is if responsibilities aren't clear as to who's doing which thing then, and there's no sort of amounts of money set for certain people to do certain things and people don't own certain budgets, is that you get sometimes quite, sort of difficulties, tensions between the parties and also quite slow decision making. And the things I've picked up on were in particular, there was quite a tension between Dora and Clare, apart from the personal tension between the two of them, there was also a kind of a budget tension when neither of them was really

sure who was responsible for producing what budget or who, what level people could spend at in order to do different things and in a sense because there was no pre-setting of a project process or a budget process or anything what happens was anything they wanted to do had to go up the line and come back down again whenever they wanted to do it because they didn't have a sort of a OK your budget for X so this is X, this is X, this is X, de, de, de, de, de. So I sort of went through that and got back to the issues around micromanagement that I know is your sort of, the bug bear, but what it got me thinking was that almost by trying to not enforce levels of management that could seem like micromanagement because you were saying OK you can spend up to this you have to budget I want a plan de, de, de, de, de, what actually happens is that operationally you get micromanagement because they aren't empowered to do what they want to do because it wasn't set up in the first place? Does that make sense?

14. John Yeah I understand what you're saying, I understand what you're saying. Um, I mean I think that's probably a fair, I mean certainly with relation to [this project, gives name] there was no pre, you know there was no sitting down and saying let's construct a budget for this, sort of thing. And if we had we'd have got it hopelessly wrong. I mean we had a kind of vague ballpark figure of how much it might cost, which was out by 100%.

15. Chris Yeah. But within that, there are certain bands of things that they do every time.

16. John Yeah I think we probably could have sat down and, and, certainly by [pause] by the time that people like Dora were getting involved. Because for a long time, a long time it was being, you know, sort of going through its political negotiation phase, plus of course the technical reconnaissance phase, right. And it only, then,

there was then Clare got, was involved in some of the sort of, assembling some of the material and all of that. But by the time, I don't know, by the time we got to July when it was more likely than not that it was going to go ahead one could have sat down and constructed some sort of budgets that would have been helpful to people like Dora I've got no doubt. I mean I cannot impress too much how, the sense of suck it and see that that imbued this project and the notion that actually (sigh) provided people didn't do stupid things with the expenses, right, (Chris: they were all OK) we were going to get a very reasonable expense to fundraise ratio, (Chris: yes) which is kind of what happened. But I can see how if you were stuck in the midst of it it would have been a bit wary. And also not clear because in one sense Clare was the project manager and actually she didn't manage aspects of the project.

17. Chris No. And this is where, the thing that I think of and this is maybe me being an accountant and also with my understanding of other people's perspectives on what accountants do, (John: mm-hmm) I see a budget as an attention focussing device, not just as a way of controlling people's money so that the process of putting together a budget or a project, a costed up project plan shall we say, the process is as important as the result. Whereas a lot of people might say oh once you, the budget it's a highly constraining document, we don't want to budget for this. But the interesting thing is is that if, and this is a hypothetical if, from what I saw if a process had been gone through some of the things would have thrown out like for example that as far as Clare was concerned she was recruited to run the fundraising sides of things but not the events side of things and Dora was in charge of events. But when I spoke to Dora about budgets she said well I didn't do the budget for the event that was Clare's job. So straight away the fact that

there wasn't a budget meant that that tension never got addressed. And I remember sitting in that meeting on the Wednesday with all of them because I was in the fundraising office on the Wednesday immediately before. So I joined them for their morning meeting and there was this really interesting conversation about buying some...

18. John Shoes?

19. Chris No not the shoes, it was some promotion, you know the pull up, all the marketing type nice looking material they sent to [the event site] to decorate the... To do the nice thing. And they said well is this accept- you know, can we spend this, and it's a few hundred pounds and Clare said well what's the, this is not a fundraiser thing as such it's an event, what do you think and Dora said well I don't know Clare it's your project you make a call. And there was this sort of to-ing and froing in the meeting who's going to make the call because it was a few hundred pounds and then Clare just said right fine let's we'll just do it then. But what you could really see was in the absence of a Director who had the power to make the call, because these people didn't have a budget ceiling that they could operate up to, in fact they were more constrained and more micromanaged rather than less.

20. John Yeah, no I can see how that could actually leave people less empowered than they would have been if some of those responsibilities were clearer, I can see that. (Chris: but there's a really interesting) And I can see how there would have been moments when that would have at best confused people. Personally for what it's worth I would blame Andy for that in the sense that that, they were his, they were reporting in to him and those, Andy's not big on processes of that sort. (Chris:

So...) Though not as bad as, he can do it, but I could have helped absolutely. So I think, I think it's a very fair observation.

21. Chris Now I think you're absolutely right in that it's Andy's baby but then at the same time without letting you pass the buck too much there are people who would say that if it was the biggest ever event that the organisation had ever put on should the CEO sign off on the budget, whatever that bu - you know, should the CEO say to the fundraising director I just want to see the budget I want to sign off on this, so I know what's going on.

22. John Yeah I think, winding the clock back I don't think we ever seriously entertained, I'm not sure how amazingly helpful it would have been to have set a budget as such, but I think, I think some sort of expenditure limits and, and, you know, so people knew, and some maybe, a little bit, a little bit, making lines of responsibility a little bit clearer could have been, could have actually helped people get hold, I totally accept that. I kind of think that if we'd sat down, even in July and said right let's throw a budget round this, well I suppose we could have done, we could have had something, a guide.

23. Chris Or even just say you know a costed up project plan, call it what you like.

24. John I see, I don't use budgets as a kind of, a sort of limit, they kind of tell you what you think and then you, sometimes it's necessary to impose strict limits, other times it's more about well OK we have a guide and then it's understanding why you deviate from them one way or another, that's actually where there's valuable stuff.