DYNAMIC UTILISATION

OF KNOWLEDGE

IN DECISION MAKING

By

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A thesis submitted in partial fulfilment of the requirements for the

Degree of

Doctor of Philosophy

The University of Warwick

Warwick Business School

September 2013

ABSTRACT

The contribution of this research is a set of novel insights on the interplay of knowledge assets during decision making. Knowledge is conceptualised as a dynamic resource. Its value is a function of the contribution it makes relative to other knowledge stock at a point of application. The information flows can renew the resource, and the influence of power makes the knowledge development process subject to reconciliation of local interests. The focus on dynamics of knowledge development through a set of value-adding processes also moves the analysis away from the rational and political perspectives of knowledge in decision making. This offers an alternative view on how the value of knowledge can be assessed and understood.

The research proposes how the decision making process could be a useful mechanism for the development of dynamic capabilities. The findings stem from the view of knowledge developed in this research as a knowledge capsule comprised of two or three knowledge assets which can draw upon two other types of knowledge from outside the decision process. The analysis relies on two in-depth strategic decision case studies and suggests that the value of knowledge can be identified from the point at which the central decision is generated. The value of each interplay can be assessed in a 'transactional' space where three types of knowledge 'meet'.

Decision making is a knowledge-creating activity. The interplay of knowledge assets is a source of value in decision making and, this thesis argues, the basis of heterogeneity of this strategic asset between organisations. Power impacts the contribution of knowledge assets and through application is redistributed during the decision making process. As knowledge stocks interplay, some knowledge is attuning and some advancing the work in decision episodes. The value can be identified by assessing the outcomes of interplay such as insights and decisions. The managerial implications focus on the challenges for developing knowledge assets and the extraction of value from existing knowledge assets during strategic decision making.

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ACKNOWLEDGEMENTS

I would like to thank The University of Warwick Business School for the opportunity to undertake this research. I am also grateful to the senior management of the client organisation which made my empirical data collection possible. I am very grateful to my supervisor Professor David Wilson for his guidance, direction and support over the years.

I dedicate my research and the associated doctoral thesis to my family.

1. INTRODUCTION

1.1. The Argument

This research investigates knowledge utilisation in organisational decision making. It adopts the view of knowledge as a key strategic asset to organisations and attempts to find out *how* it is utilised over a period of time. It uses the strategic decision making process as a context and an example of a key process that contributes to firm performance. Three questions underpin the research. How does senior managers' knowledge interplay in the decision making process? What influences the use of their knowledge during decision making? How can the value of knowledge as a strategic asset be identified? The aim is to propose a theoretical basis for the assessment of value that is applicable in practice.

The utilisation of knowledge is highly variable and influenced by local context. This thesis argues that the ways in which knowledge is utilised, during a decision making process, impacts the extent of its value as a resource to organisations. The heterogeneity of the resource emerges out of the process, through application, and interaction with other knowledge types. The strategic decision provides a transactional space for interplay, with power influencing the application of knowledge and its creation during decision making. The information flows in and between different parts of the decision process are the carriers of that power, which becomes embedded in the process. The individuals, through the application of own knowledge and work done are the redistributors of that power.

The research explains how knowledge is renewed and using new empirical evidence suggests how a process, such as decision making, is a knowledge-creating activity. In breaking the exogenous-endogenous divide, it moves knowledge debates away from knowledge-processing views. Some parts of knowledge stock pass straight through the process. But, some knowledge is renewed through interplay with other knowledge types and new insights that emerge. The renewal will at the same time influence the value of that stock and the products of interplay at a future point of application. The decision can either create new organisational knowledge assets, or rely on existing ones. The topic will decide.

The findings stem from the shortcomings of the resource-based view of the firm (RBV), which does not address how resources are utilised, and remains focused on their accumulation. The insights build on arguments made in the knowledge-based view of the

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firm (KBV) which treats knowledge as the most strategic resource. The decision process is a learning mechanism which integrates different types of knowledge and in doing so, supports the evolution of dynamic capabilities. The research proposes how the application and creation of knowledge during decision making can modify and extend the organisational knowledge base. The novel insights contribute to debates on the dynamics of knowledge and its utilisation in decision making. Furthermore, they provide a basis for the identification and assessment of its value as a strategic asset in organisations.

1.2. Existing Debates

The main debates in management literature, that address knowledge and its application, oscillate between knowledge as a resource or a process, each with a different set of assumptions. The RBV assumes knowledge to be a transferrable commodity and its accumulation a function of how it is used. The dynamic capabilities focus on the organisational ability to sense and seize opportunities in the marketplace by deploying bundles of resources, or assets. The orchestration and reconfiguration of resources over time, not only their accumulation, is associated with high levels of performance and competitive advantage. Both views, however, mask the endogenous nature of knowledge and highlight the contribution of the KBV. This alternative conceptualisation of organisations is centred on the study of knowledge as the most strategic resource.

The KBV attempts to extend RBV debates further, by focusing on knowledge-specific processes in organisations. The sourcing, application, development, creation and transfer of knowledge are studied in different contexts and across levels of analysis. Given its complex nature, some theorists have also developed a complementary view to resource debates which treats knowledge as a provisional, contested and pragmatic process. The contention point brings to bear the potential conflict that may arise from different interests and preferences in that context. But, in studying the value of knowledge, the issues of power and politics, other than in passing and through occasional mention, remain a separate body of research to knowledge and its management in organisations at this time.

The assumptions which support KBV debates underpin this research. It examines the application of the asset from the point of view of individuals, who are the primary sources of knowledge and learning in organisations. The research adopts a dynamic view of knowledge, focused on information flows, as a theoretical basis to examine the application

and development of knowledge as an asset. This view deals with knowledge and its dynamics almost exclusively. It offers insights on how it is transformed in form and structure, and diffused. However, it does not explain how this happens in practice.

This research relies on strategic decision making (SDM) to provide a local context for an empirical study on application of knowledge. There are a number of benefits that justify the choice. SDM draws upon different types of knowledge, and brings to light the reconciliation of interests that influence their application during decision making. Surprisingly, the literature on knowledge only slightly touches upon this issue. The novelty of strategic decisions, their complexity and uncertainty of their outcomes only offer more ground to explore how the senior managers influence knowledge application and development.

The reality of running organisations suggests that application of knowledge will be more spontaneous in practice than any theory is able to capture. Not all decisions or actions are based on knowledge. There will be occasions when managers do not have time to establish facts independently. In such instances, the managers are likely to rely on knowledge of others and act as advisors. Or, they will make a decision with the knowledge that they do not know enough. The studies on SDM show little in that regard, so this research also offers an alternative way to study knowledge use in decision making.

1.3. Our Position

This research treats knowledge as a structure that builds on information, extracted from data. A knowledge asset is a subset of knowledge, since the field of knowledge is greater than any knowledge asset. The focus is on senior managers who through application of their own stock also bring into the process the knowledge from others and contribute to work in episodes. By using senior managers as a basis, it was possible to identify how knowledge as an asset develops through decision making. The application of knowledge in decision making contributes to its development and its value as a strategic asset.

New insights which emerge, in combination with existing knowledge, impact the development of each decision. How the heterogeneity of knowledge develops through decision making, is therefore influenced by the emergence of insights. The exogenous versus endogenous nature of knowledge is no longer a question. Rather, it is the potential change in that balance that deserves attention and that should be more readily addressed in knowledge debates. For example, how do senior managers exert influence on knowledge

development during decision making? How critical is it to ensure that those who 'possess' the most relevant knowledge are in positions of power from which to decide upon the next steps? In the end, who decides what knowledge is strategically valuable, and how?

As the field of knowledge is always greater than any combination of knowledge stocks that are applied, we propose that who is in the process matters. The assumption we are making in this research is that at least some of the knowledge (stock) that is applied is subject to change. The use, and renewal, is likely to vary on a number of grounds. In transfer between knowledge stocks, knowledge is information and its conversion and value relative to existing stock is influenced by those who make and implement decisions. Both, the resource and the process are dynamic by nature, so this thesis argues that decision making is a knowledge-creating activity. The new knowledge that is created will manifest itself in new and existing products, technologies and organisational practices.

1.4. Plan of the Thesis

This thesis will provide a framework for understanding the utilisation of knowledge in decision making. In doing so, it will add to debates on knowledge as a dynamic resource and how best to capitalise on its value as a strategic asset. For practicing managers, it will offer a more flexible view of decision making and assist them with making decisions on resource allocation to best support strategic decisions. The thesis is structured as follows:

➢ In Chapter 2 we examine the theoretical developments in literature and identify gaps to be filled by current research. We take the view of knowledge as an asset, look at the definitions and resource dynamics. We recognise its value, but also the need for a vehicle to identify the value in practice. The benefits do not only stem from characteristics of strategic decisions. The integration of knowledge assets at strategic level is a political business and the SDM literature addresses the use of power and politics which are relevant to our debates.

➢ In Chapter 3 we set out the methodology for the empirical investigation. We provide an overview of methods in social sciences for sampling, data collection and analysis, and justification of chosen methods, including coding of data. Notes are included on ethical issues, validity, reliability and limitations of the method.

➢ In Chapter 4 we present two strategic decision cases – NPD and NLO - by providing an overview of the organisation, a brief background on each case, followed by the details of their formulation and implementation which are divided into episodes. A summary of key decision episodes is presented to the reader.

➢ In Chapter 5 we outline the decision structure which frames the analysis. We then delve deeper by cross-comparing two cases in terms of knowledge use during decision making. The analysis is focused on the identification of similarities and differences between cases, before outlining emergent themes. Supporting case examples shed light on key aspects of each theme. The findings will be used to discuss the contribution of this research in relation to existing literature.

➢ In Chapter 6 we attempt to build on theoretical developments on knowledge as a resource and a source of value in organisations. The case data are discussed in relation to the research questions which address three key elements: the role of individuals, the local context of their contributions, and the value of knowledge application and development through decision making. The discussion is split into a series of thematic headings which build the central argument of the thesis.

➢ In Chapter 7 we offer a conclusion to the research by outlining the contribution of the work and findings to the advancement of debates on knowledge management and dynamic capabilities. It addresses the ongoing question of what it all means in terms of the development of knowledge assets to support business growth and performance. The thesis concludes with a set of managerial implications, the limitations of the research, and offers some future research directions.

2. THEORETICAL BACKGROUND AND POSITIONING OF THE RESEARCH

2.1. Introduction

The bases of value creation and competitive advantage are central to debates in the strategic management arena. Knowledge, it is widely argued, is a key strategic asset in organisations (Winter 1987; Prahalad and Hamel 1990; Kogut and Zander 1992; Grant 1996a; Spender 1996a; Boisot 1998; Teece 1998; Decorolis and Deeds 1999; Hatch and Dyer 2004; Nag and Gioia 2012). Its value is premised on its ability to increase returns generated through its application in processes which contribute to firm performance. Knowledge assets, or accumulated stocks of knowledge, are treated as key sources of competitive advantage (Boisot 1998; Teece 1998). These include technologies and patents, as well as the skills and the expertise of individuals who contribute to creation of knowledge at organisational level. However, it is not necessarily the accumulation of knowledge which is the most valuable, but its *useful application* as an asset. As such, the evolution in organisational forms and changes in industry structures continue to raise questions around the exploitation and development of knowledge assets.

The strategic value of knowledge has been addressed at some length in the resource-based view of the firm (RBV). The associated knowledge-based view (KBV) has taken the RBV debates further to argue that knowledge is the most strategic resource. Both will be examined in this chapter. It will be highlighted that the value of knowledge stems from its ability to provide a stream of useful services. At the same time, organisations learn through experience which helps to create new knowledge. The learning implies that the value of knowledge is in the utility of its services *over time*, with the form and structure subject to a degree of change. Therefore, the accumulation of different types of knowledge is also a function of their application during processes which contribute to firm performance.

One such process is strategic decision making (SDM), which has been selected in this research as the most appropriate context to demonstrate the value of knowledge as a strategic asset. In investigating knowledge utilisation, the thesis argues that knowledge is a variable which not only contributes to decision making, but also undergoes a degree of transformation as it passes through the process. Decision making is not only a knowledge-processing, but also a knowledge-creating activity. If knowledge utilisation continues to

grow in importance, the critical question that remains open to research is: how is the role of knowledge as an asset characterised by examining its utilisation in decision making? The answer will be based on identifying the role of knowledge in this context.

This research focuses on the contributions of individuals and the interplay of their knowledge stocks during decision making. It takes into consideration the contextual factors which are likely to influence the value of knowledge (stock) that is applied to a decision. To set the scene, this chapter offers a critique of RBV and explores key debates on knowledge as an asset. It will highlight the shortcomings of RBV and gaps to be filled by the current research. It will outline a dynamic alternative and explain how the distinctive characteristics of strategic decisions make the SDM which produces them an appropriate vehicle to study knowledge application. The chapter will conclude with a theoretical position and a summary on research questions which will underpin a brand new empirical inquiry.

2.2. RBV: The Stepping Stone

The RBV of the firm has made a significant contribution to the study of strategic management. It has placed resources (and capabilities) as the focal point of debates on how firms achieve growth and sustainable competitive advantage (Penrose 1959; Wernerfert 1984; Dierickx and Cool 1989; Prahalad and Hamel 1990; Barney 1986b, 1991; Peteraf 1993; Teece et al. 1997; Eisenhardt and Martin 2000; Winter 2003; Helfat et al. 2007; Teece 2007; Helfat and Peteraf 2009). The underlying assumption is that firms are heterogeneous with respect to resources they hold and the internal characteristics of firms impact their productivity over time. The firms are also profit-maximising entities led by rationally-bounded managers and the information asymmetries in the markets allow firms to create positions of competitive advantage (Teece 1998, 2000; Kraaijenbrink et al. 2010).

This view is in contrast (or complementary, depending on the researcher's position), to industry-based models (see e.g., Porter 1979, 1980, 1991) which focus on competitive position and forces that exert influence on potential rents. The assumption is that firm performance is tied to industry forces, as oppose to development and application of resources and capabilities which allow them to acquire those positions of advantage. Even if heterogeneity exists within firms, it is said to be short-lived, as resources are assumed to be perfectly mobile between firms. Depending on the view, preference, and personal affinities, both views have found their audiences in both, academic and business circles.

The bulk of the RBV argument rests on two characteristics which make resources strategically valuable: their heterogeneity relative to resources of other firms, and accumulation over time. The resources are said to be valuable, rare, non-imitable and non-substitutable because they are tied to organisational context (Barney 1986b, 1991). This makes history important relative to their development as firms learn through experience and create new knowledge (Penrose 1959; Huber 1991; Argote and Miron-Spektor 2011). Some of the four indicators overlap, but the broad idea is that the more resources a firm has, the better off it is, and how they accumulate is a function of how they are used.

When a resource is used in combination with different types, or amounts of other resources, it will also provide a different service (Penrose 1959: p.25). Therefore, it is not only the protection and acquisition of resources that is important, but their application in processes which they shape over time. The decision on what resources to bring into the process is as important as the resource mix. The availability, and selection, depends in part on the existing allocation across the organisation in pursuit of often competing goals between different areas of the business. It highlights the role of managerial choice as having some influence over the outcomes of chosen courses of action (e.g. Child 1972).

Each firm has many types of tangible or intangible resources, such as financial, physical, human and organisational resources (Grant 1991). These include cash, intellectual property, employee know-how, information and knowledge that enable firms to develop and implement strategies. But, on their own, few resources are productive. The cooperation and Coordination of a group of resources are needed to perform a task or an activity (Grant 1991). This is not an easy task, however, since it involves making a decision on which resources to put together. Furthermore, not all resources will be available at the point at which they are needed. There may be conflicting priorities that make cooperation between different units and resources challenging, so the allocation step is just as start.

The accumulation of heterogeneous resources is one source of advantage. Immobility is another one. It implies the need to move the whole system of production to replicate the value derived from their services (Kogut and Zander 1992; Zollo and Winter 2002). This stems from resources being tied to organisational context. The influence of external factors on performance is also a reminder that one cannot look at resource development and application in isolation from the competitive forces. Ex-post and ex-ante limits to competition have been identified by Peteraf (1993) as having bearing on potential generation

of rents. These must be met in order to generate superior returns. The deployment of resources to support capability development is therefore a relational task.

The second argument, that in many ways stems from the first, and one relevant to this thesis, is that organisations and individuals learn through experience (see e.g., Penrose 1959; March and Simon 1958; Cyert and March 1963; Argyris and Schon 1978; Nelson and Winter 1982; Winter 1987). The learning is assumed to be path-dependent and can influence the development of resources across contexts. As organisations learn, new technology updates, for example, can simultaneously develop a resource and a capability. Knowledge creation stems from these increases in experience over time. It not only renews the abilities of individuals to use knowledge inside the organisation, or a specific area of the business, but it can also update the services of other resources.

The dynamic capabilities are an extension of the RBV that highlight the dynamic embedded in organisational practices. The definition has evolved with the research agenda and nowadays it is broadly accepted as "the capacity of an organisation to purposefully create, extend, and modify its resource base" (Helfat et al. 2007: p. 4). The concept is built on the idea that bundles of resources, such as knowledge and skills, can be integrated and reconfigured to develop capabilities which evolve over time (Hamel and Prahalad 1990; Teece and Pisano 1994; Teece et al. 1997; Zollo and Winter 2002; Helfat et al. 2007; Helfat and Peteraf 2009). These capabilities enable organisations to create, deploy and protect tangible and intangible assets which support superior firm performance in the long term (Teece 2007). A good example is the integration of different technologies to make a new product, or a competence in design and manufacture of a new technology. Teams of individuals build the new capabilities which facilitate resource reconfigurations over time.

A central feature of the dynamic capabilities framework is path-dependent learning (Eisenhardt and Martin 2000; Teece 2007). History matters in the process of adapting, integrating, reconfiguring and renewing, internal and external skills and resources, and functional competences (Augier and Teece 2009). The capabilities are shaped by the interaction and co-evolution of three learning mechanisms: experience accumulation, knowledge articulation and knowledge codification (Zollo and Winter 2002). Cross-functional teams that rely on real-time information transfer and good communication links, bring together different sources of expertise to build new products and customer experiences (Eisenhardt and Martin 2000). Coordination, learning and reconfiguration

processes support the evolution of capabilities for sensing and seizing opportunities and managing threats (Teece 2007). Investment in the identified opportunities can lead to new asset positions and paths that support growth, performance, and competitive advantage.

Some inconsistencies exist in defining capabilities, and largely tacit, hard-to-imitate core competences, which remain an elusive concept (Boisot 1998; Eisenhardt and Martin 2000; Easterby-Smith et al. 2009). In some studies, capabilities are treated as resources, which is not technically true. At least some core competences are tied to complex social relationships, either internal or external, which impact the delivery of products to market. These cannot be observed directly and capabilities are said to remain hidden until they are exercised (Easterby-Smith et al. 2009). They are underpinned by a myriad of social and knowledge management processes, many of which cannot be observed directly. Different capabilities can perform different tasks, so specifying which ones are to be investigated, has been highlighted as a good research procedure (Helfat and Peteraf 2009). In recent years, ideas on a more dynamic RBV and links to knowledge management have also entered debate, but remain in the early stages of development (Helfat and Peteraf 2003; Foss and Isikawa 2007; Easterby-Smith and Prieto 2006, 2008; Zheng et al. 2011).

The scholars of dynamic capabilities have created a useful theoretical lens through which to study strategic change. The field has succeeded in shifting the analytical focus away from the protection and acquisition of resources, which has left the RBV open to much criticism. A recent assessment of the RBV has identified as many as eight categories of critiques that shed light on its contribution and shortfalls in practice (Kraaijenbrink et al. 2010). For example, it has been criticised for conceptually remaining within the realms of economic rationality, having limited managerial implications and its applicability in practice being too limited. The definitions of a resource are many and inconsistent, and therefore it is difficult to assess value. The four resource indicators are said to be neither necessary nor sufficient to achieve sustainable competitive advantage. Furthermore, the value of a resource, such as knowledge, is deemed to be too indeterminate to make RBV stand as a theory of the firm (Priem and Butler 2001; Kraaijenbrink et al. 2010: p. 351). The basis of most critiques, however, is the long-standing association between resources and competitive advantage.

The main shortcomings of the RBV arguably stem from that very basis of value assessment. Many authors, nevertheless, continue to directly link the application of resources to firm performance. Such an approach ignores the forces that come to bear on that performance.

These are often outside the control of organisations that they often respond to, rather than shape. The study of dynamic capabilities in remaining focused on the macro level does not explain how resources develop through application. From an internal perspective, in focusing on volume, little attention is given to the construction and management of a resource bundle, or how resources are utilised during an organisational process (Spender 1994b). Resources can develop through application and a multitude of factors will have bearing on this development and their reconfigurations over time. But, whilst the accumulation of resources is widely accepted to be a function of how they are used, the contextual factors that influence application, remain open to exploration and research.

2.3. KBV: Knowledge at the Centre

Since its inception, the research in the RBV field has treated knowledge as one of the key organisational resources. In particular, those addressing the importance of (intangible) skills and employee know-how to development of capabilities and firm performance, have treated knowledge, or knowledge assets, as the most strategically relevant resource. Given the changes in the industry structure and what is considered most valuable relative to performance, knowledge has taken centre stage in debates on the creation of competitive advantage (see e.g., Grant 1996a; Spender 1996a, 2005; Kogut and Zander 1996; Teece 1998, 2000; Eisenhardt and Santos 2002; Felin and Hesterly 2007; Nag and Gioia 2012).

The KBV is not as robust, or as long-standing, set of arguments as the RBV, but it is a theoretical perspective which sheds light on the value of knowledge as an asset, by examining the pivotal role of knowledge in organisations (Grant 1996a; Spender 1996a). It proposes that it is the heterogeneity of knowledge bases that separates firms and makes some perform better than others. The KBV also recognises that there are different types of knowledge and focuses on the outcomes and results that firms achieve from generation, storage and application processes of these different types. In other words, it focuses on the management of knowledge (assets) and systems to support the development.

In line with this view, firms are conceptualised as repositories of knowledge embedded in processes and routines, or individuals. The essence of the firm is to create, transfer, integrate and exploit knowledge assets to productive ends (Grant 1996a). Rather than knowledge being treated as a resource that is passed around the organisation, the KBV treats individuals as primary agents of knowledge creation and principle repositories of tacit

knowledge (Grant 1996a: p. 451). Tacit knowledge, mentioned here on the outset, is argued to be the most strategically valuable. The claim stems from the philosophical foundations of its nature that also move away from dominant positivist views in strategic management (Polanyi 1966; Winter 1987; Spender and Scherer 2007). However, tacit knowledge, theoretically a well-grounded concept, is also difficult to capture in practice.

The key ideas remain in line with the original RBV assumptions that maintain that (a) knowledge is a heterogeneous asset which accumulates over time and (b) as stocks of useful knowledge increase, so will the development of other resources and services these resources provide over time. There is a departure from the RBV debates by challenging the view of knowledge as a processed commodity. By adopting a more flexible view, it also highlights an important alternative on knowledge as an asset, which is focused on the process of knowing of individual agents in local context (see e.g. Blackler 1995; Brown and Duguid 2001). This alternative, which takes into account managerial activity and treats knowledge as a provisional and situated process, will be outlined in more detail shortly.

The appropriability and its capability for aggregation are two characteristics which separate knowledge from other resources and are used to support the claim that knowledge is the most strategically valuable (Grant 1996a). The different types of knowledge which each firm possesses also vary in transferability and therefore, value. The central argument is that the individuals are the primary agents of knowledge, and most knowledge is subject to economies of scale and scope. The role of the firm is to allow agents to specialise in an area of expertise and the firm to provide mechanisms for integration of knowledge (Grant 1996a). But, as definitions have been found to vary between firms, many more 'types' have been brought to the attention of scholars and readers, with boundaries unclear at times.

The importance of individuals, nevertheless, stands its own ground. It implies that knowledge involves someone who understands how something works and a personal experience element that is a source of difference (Felin and Hesterly 2007; Nonaka et al. 2008). To achieve an understanding implies dependence on organisational context, which in turn, places some limits on application of individuals' knowledge, which can bring about changes in that context. Knowledge flows through communities and it circulates via stories, meetings and informal networks. This is particularly true if knowledge is not yet codified to the extent to which it can contribute to the creation of new knowledge. Instead, it germinates, until it becomes meaningful to individuals, who know what to do (Weick 1995;

Teece 2000; Nonaka et al. 2008). The development of that knowledge cannot be fully captured, and the flow introduces a complication in terms of assessing its value.

The stock of useful knowledge can increase through experience. As knowledge increases, the stream of useful services from other resources can evolve with it. Individuals' abilities to use knowledge are likely to improve and contribute to firm performance. However, to date, knowledge links to performance and competitive advantage remain unclear and unproven (Eisenhardt and Santos 2002). In the strategic management arena, the direct link is assumed nevertheless, but used in conjunction with broader analytical frames. Many scholars also remain focused on the strategy content. They tend to rely on quantitative analyses that do not capture the valuable differences in processes which utilise (different types of) knowledge. If more knowledge is transferred and created, it does not mean much to the organisation, or the individual, if knowledge itself is not strategically valuable. To understand this requires some diversion from the study of macro level relationships towards the identification of factors that influence knowledge application over time.

2.3.1. Knowledge: A Strategic Asset

The value of knowledge may be difficult to assess at strategic level, but it stems from its useful application which impacts how it accumulates as an asset (Grant 1996a; Spender 1996a; Teece 1998). There are many different knowledge types and definitions which can vary by context. Information in one context is knowledge in others, what is personal and individual knowledge in some is organisational in other contexts. In line with earlier ideas on resources and capabilities, this variability is to a large extent dependent on organisational experience and its path to current position and performance against competitors. In most cases, however, definitions vary by groups of authors depending on the research agenda and importantly, by the epistemological positions each takes in their areas of study.

Firstly, definitions of knowledge as an asset in action stem from the epistemological assumptions that researchers hold about the world; secondly, the depth of study in terms of whether knowledge has been taken as one of the concepts in the analysis, or as the primary one; and thirdly, the context of study. The view of knowledge as a transferrable resource remains the most widely adopted view with attempts to examine relationships between stocks and flows of knowledge. Organisational theorists have delved deeper into the

concept and borrowed from philosophical and sociological contributions to treat knowledge as a process that undergoes transformation in the context of its application.

The definitions include conceptualisations of knowledge which range from general statements of that which is known, or a justified true belief, to a structure that can be modified by an inflow of new information, or a disposition by an agent to act in given circumstances (Nonaka 1994; Grant 1996a; Tsoukas 1996; Boisot 1998; Boisot and Canalis 2004). The first definition could arguably encapsulate everything, which does not make the study of knowledge as a concept easy or entirely comparable. To compensate for this shortcoming, some have rightfully taken it beyond the much quoted 'justified true belief' claim, by recognising that what is true varies in context, and it can change over time (e.g. Spender 1994b, 1996b). Definitions can and do vary by context, and therefore what is accepted as knowledge can impact how it is used in a particular organisational setting.

There are two further considerations in terms of assessment. One is concerned with whether scholars choose to treat knowledge as a resource or a process and the other is focused on the relative importance of dichotomies. That knowledge is not imitable or replicable, implies that one must understand the routines that played a role in the process of creating a value proposition. It is not merely a case of identifying bits of knowledge, but the system of practice in which they are applied. This highlights the importance of dimensions or characteristics that are specific to knowledge as part of that context; such as, the extent to which it is embedded in a system of practice, or independent of it; whether it is observable, or not, and the idea that all knowledge, at its core, has a tacit dimension regardless of where in the organisation one locates it (Polanyi 1966; Winter 1987).

Some scholars have focused on the study of knowledge as one of the resources and others as the most significant one (Polanyi 1958, 1966; Nelson and Winter 1982; Winter 1987; Levitt and March 1988; Cohen and Levinthal 1990; Henderson and Clark 1990; Prahalad and Hamel 1990; Grant 1991, 1996a, 1996b; Castanias and Helfat 1991; March 1991, 1999; Simon 1991, 1997; Hall 1992, 1993; Kogut and Zander 1992, 1995; Leonard-Barton 1992; Starbuck 1992, 1993; Amit and Schoemaker 1993; Drucker 1993; Nonaka 1994; Spender 1994b, 1996a; Nonaka and Takeuchi 1995; Davenport and Prusak 1998; Leonard and Sensiper 1998; Zollo and Winter 2002; Garcia et al. 2003; Hatch and Dyer 2004; Nonaka et al. 2006, 2008; Majchrzak et al. 2012; Nag and Gioia 2012).

Beyond conclusions that it is a strategically valuable asset, the RBV studies of knowledge have shown that it can be understood and analysed in different ways. At the same time, those who have challenged the RBV altogether have added another, and perhaps necessary, dimension to knowledge debates (see e.g., Alvesson 1993; Blackler 1995; Tsoukas 1996; Cook and Brown 1999; Blackler et al. 2000; Tsoukas and Vladimirou 2001; Tsoukas 2009). However, its problematic nature combined with opposing research agendas has led to a widespread tendency to treat knowledge in an 'either-or' fashion. The result to date therefore, has been a fragmented body of research, instead of a critical mass of ideas.

The value of knowledge is not refuted, rather, beneficially challenged by different research agendas. Furthermore, its application can be influenced by the power of those who decide upon the accepted definitions. The production of truth, and knowledge, are inseparable from the context, or power, which enables and shapes the truth (Gordon and Grant 2004). The mention of truth could take arguments outside the realms of management, but power can and often does shape knowledge (see e.g., Foucault 1980; Flyvbjerg 1998). It is a sociological idea that has been studied elsewhere, but has not been given sufficient attention in the management arena. The idea adds an important dimension to knowledge as a construct that addresses not only its value, but the formation of that value.

A potential change in the value highlights the contribution of the bounded rationality perspective and that the implicit assumption, which underpins positivistic views of knowledge as something absolute, may require revision in the future. At any point, knowledge is partial, and there may not be an agreement on its value or importance. Power is ever-present and therefore cannot be ignored if a more realistic view of its role is to be gained. It is rarely the case that one applies knowledge free of personal values and preferences. Adding to any given situation the values and interests of individuals, in particular those in positions of power, is likely to lead to a definition of knowledge that takes into consideration a lot more factors that have bearing on what it is in practice.

The complexity of the competitive landscape leaves much to interpretation of senior management in organisations. To compensate for incompleteness, individuals have to interpret and derive meaning from events (and situations), and in doing so, simplify the reality that they are experiencing (Schwenk 1984; Weick 1995). They do this until knowledge is codified and can be applied in some way. This simplification process is not void of interests that can either be personal, or organisational, so there is always an

element of power in what is defined as knowledge in the context of application. Those who are in power can decide on the internally accepted definition, or the individuals who have knowledge also have the power to influence decisions or activity.

Knowledge is therefore a resource that can be shaped by interests, and one which at an organisational level can also be conceptualised as a capability which mobilises other knowledge, or resources. Knowledge assets, or stocks of knowledge, include managerial skills and know-how of individuals. These are treated as a transferrable commodity, with theoretical advancements making the resource more dynamic in some studies. One such alternative, which focuses on the impact of information flows on knowledge as an asset, will be examined shortly. According to that alternative view, knowledge economises on the use of other resources by informing, organising and enhancing them (Boisot 1998). It is the manifestations of the asset that can be observed, and therefore captured in practice.

2.3.2. Nature of Knowledge

Central to studies on knowledge is the nature of the concept. In management circles, new frames and dimensions have been developed beyond its purely philosophical foundations in an attempt to make it more theoretically and empirically grounded. The general consensus is that the multifaceted nature of knowledge has made it a highly problematic concept to define, frame and study. Many definitions are used to describe a similar phenomenon but, knowledge is essentially a structure with information modifying it, if information is new relative to the existing structure (Boulding 1966; Langlois 2001). It is not an accumulated stock of information, however, which is then efficiently organised for quick retrieval (Teece 2000). It can be gained through reason or experience. There is a continuous interaction between the two modes, although the distinction is not always made in literature.

Both, reason (or rationality, as it is more commonly referenced in management literature) and experience are elements of knowledge as a concept regardless of the adopted view. For example, doing a PhD, we can read lots of academic articles identify and interpret various arguments, based on what we have read (information) and what we already know (structure). At the same time, we experience the research process which changes what we do throughout the process. This in turn, impacts what we learn over a period of three or four years. In that time, we build expertise in our research field, which we can apply in

different contexts. The example only demonstrates it is not just about formal education per se, since the experience shapes our research and contribution to a large extent.

Knowledge needs to be captured and codified in order to assess the value of less codified elements. This is firstly, about the degree to which it is made explicit, or the extent to which it becomes embedded in organisational routines and specifications, or project documents. Secondly, it needs to be appropriable, which is about the extent to which it can be captured, adapted and turned into a source of value. This involves examining the outputs of knowledge application, not just treating it as an input into activity.   A lot remains tacit throughout, but still impacts the application of more codified knowledge. To use the PhD example again, to write a thesis and analyse empirical data we need to codify it all, but we are also relying on tacit skills to choose what is relevant and how we will codify it.

The main debates on the nature of knowledge as a resource oscillate between different types of knowledge. Tacit knowledge refers to the know-how of agents, or expertise in a field. It is subjective, local, personal, pragmatic, and revealed through application. It is difficult to explain, and articulate, and as it is rooted in human action, agents are not always conscious of knowledge brought into an activity (Nelson and Winter, 1982; Spender 1994b; Nonaka and Takeuchi 1995). Explicit knowledge, or know-what, is codified, objective, and revealed through communication. Neither type of knowledge is merely about knowing the facts, but understanding those in context, and knowing how to interpret and frame that information and use it as a basis for strategic planning and development (Teece 2000).

This tacit-explicit dichotomy is well-researched, and has been complemented by the (pluralistic) individual-social dichotomy, which argues that collective, and not individual, knowledge is the most important to a firm (Spender 1994b, 1996a). This has built on the ideas of organisational knowledge and conversion between tacit and explicit types (Nonaka and Takeuchi 1995), which assume that all knowledge can be captured or tracked through conversion processes between different types. This has, to some extent, minimised the role of individuals, who are the principal agents of knowledge transfer and learning within organisations. In doing so, it has taken discussion to an abstract level.

The second distinction, between individual and organisational levels, is focused on the most important type (Spender 1996a). Some argue that organisational (or social) knowledge matters more and macro level studies would fall in this category. However, there is

constant interaction between the two types, so it is not easy to decide where one ends and the other begins. Individuals contribute own knowledge to organisational activity. As individual knowledge is used, it can become embedded in organisational rules and procedures that guide collective behaviour. These are known as organisational routines (Cyert and March 1963; Nelson and Winter 1982; March 1999). Their application and relevance can extend beyond the local context until, eventually, they become regular and predictable patterns of behaviour; such as product development, or social practices.

The development of dichotomies of knowledge types, although easy to understand, has been criticised for its two-dimensional perspective. These are by now widely accepted distinctions. For the benefit of those discussion and practical application, researchers continue to assume artificial splits between different knowledge types, which in reality, some would argue, are not easy to make (see e.g., Boisot 1998, Langlois 2001). If knowledge is a structure that is amended by new information, it implies that whatever view one takes of it as a resource, it is undergoing constant transformation. The distinctions between 'types' are not only problematic in theory. In practice, knowledge arguably becomes less divided, more dynamic, and therefore more difficult to study.

To some extent all knowledge has a tacit dimension, and as such, exists and moves along a 'tacit' continuum (Polanyi 1966; Winter 1987). Therefore, some knowledge can become explicit, when converted to documents through communication, but it still remains the product of individuals who inject own interpretations into converting what they know into an alternative form. If all knowledge has a tacit dimension, as Winter (1987) proposed, it can be analysed according to complexity, the extent to which it is articulated, observable, teachable, and the extent to which it is system-dependent. However, it remains difficult to define what is observable, through which specific set of actions, and teachable by whom.

In his studies of knowledge assets, Boisot (1998) even goes a few steps further to argue that (a) knowledge cannot be observed only inferred from actions of agents and that (b) the splits between tacit and explicit remain ill-understood. It is much easier to draw the line on paper than in reality. To highlight the issue, he outlines three types of tacit knowledge: things that are not said that everybody understands (context); things nobody fully understands; and those that some understand but cannot fully articulate. This hints that a lot of knowledge cannot be captured, but it still shapes the context. It does not have to be codified and abstract to continue to be a valuable source of growth (Langlois 2001).

Besides the dichotomies that focus on conversion between different types, another question that arises is related to the treatment of knowledge; is it an exogenous or endogenous factor of production and influence, or can it be both? The economic-based views of strategy treat knowledge as an input that is applied and in line with rationality-based views of knowledge which assume complete information and comprehensive analysis is possible (see e.g. Simon 1997; March 1999). However, the concept of bounded rationality has highlighted that knowledge is never complete. It implies that at least some knowledge is subject to improvement. A key question that remains open to research, concerns the extent to which knowledge is transformed in practice.

An alternative to the rationality-based views is to argue that a lot of knowledge remains tacit at all times. This, by nature, will impact the transformation of knowledge that is applied, and renewed through experience (Langlois 2001). Exogenous treatment of knowledge implies it is a well-codified, transferrable commodity, which is complete and therefore, an unbreakable structure. But, by receiving such treatment, it excludes the ongoing influence of organisational history and experience which shape all 'types' of knowledge over time (e.g. Pettigrew 2003). This does not only include the know-how of individuals, but a much broader set of knowledge assets. The use of power and the boundaries put around strategic issues and solutions are arguably part of that history.

The issue of dividing knowledge into categories echoes those in the RBV literature, which has been criticised for making poor distinctions between different types of resources which are, for example, treated as 'tangible' or 'intangible'. These minimise rather than accentuate the valuable differences between them (e.g. Johnson et al. 2003). It also highlights the shortcomings of macro analyses where the differences between organisations and their resources are less apparent; not all will use knowledge in the same way. Still, macro analyses continue to dominate the RBV research agenda. It remains useful, but it focuses on the analysis of knowledge that organisations produce and utilise; not the actual process or activity that does the producing, or utilising of different 'types' of knowledge.

The conceptualisations of knowledge may be different, but most scholars treat knowledge as an 'asset' embedded in organisational processes, artefacts or brains of individuals, and one that is accumulative. This means that over time individuals have at their disposal a 'stock' of knowledge, which they can apply in organisational activities. Some knowledge will be more valuable than others, depending on the process that demands its application and

contributions of other agents. Also, the application of knowledge (assets) is not the same across levels of the organisation (Boisot 1998). The presence of competing interests and priorities means that different teams are likely to rely on some source of power in the process to achieve their goals and objectives. This once again highlights that power deserves greater consideration in the debates on knowledge application in practice.

The competitive landscape facing organisations is full of uncertainty and too complex to make clear distinctions in terms of relationships and outcomes. A lot remains open to interpretation. It is therefore not realistic to expect full consensus between different business functions, but instead, try to negotiate the relative contribution in the process. How this issue is handled is likely to vary by context and organisational experience. This we know little about at this time. Knowledge itself can be the basis for power, or at least, a source of differential influence in organisations. Those who 'possess' greater knowledge also arguably 'possess' greater power and influence. The question is to what extent is this true in practice? Unless power and influence are exercised, they are of little value. In a similar way, the possession of knowledge is of little value without useful application.

2.3.3. Creation of Knowledge

There is a broad consensus amongst management scholars that knowledge creation is critical to competitiveness in the long term. At organisational level, knowledge is created by individuals who apply their own (specialist) knowledge in a wide array of activities. The theoretical works of Nonaka and Takeuchi (1995) and Spender (1994b, 1996a) explain the creation and conversion of knowledge most clearly. Many of their arguments build on the ideas of organisational learning (see e.g., Simon and March 1958; Arrow 1962; Cyert and March 1963; Argyris and Schon 1978; Nelson and Winter 1982; Levitt and March 1988; March 1991; Starbuck 1992; Simon 1997). The organisational context represents a repository of knowledge 'types', which can be converted into alternative forms.

Learning is path-dependent, and history is important. The organisational experience, it is widely accepted, has a significant bearing on the development of resources and capabilities (Eisenhardt and Martin 2000). Individuals learn from organisational experience which over time develops into routines that guide behaviour, and in turn, organisations learn from individuals and own experience over time (March and Simon 1958; March 1991). Individuals apply knowledge and skills to deal with and respond to complexity that surrounds them.

Their ability to recognise the value of external information, assimilate it and apply it to commercial ends depends on the existing knowledge base (Cohen and Levithal 1990).

It was outlined earlier that knowledge is a structure, or a system of rules for action, that can be modified by new information acquired through experience. "The process of knowledge creation is a social one, a kind of spontaneous order that arises not mostly from the directed search for knowledge but from the unintended effects of production and consumption" (Langlois 2001: p.91). This implies that knowledge creation is endogenous and that there are limits to path-dependent learning from existing stock of knowledge. The knowledge structure at group level is only more complex with a greater number of interlinked nodes. This makes it difficult to assess the path of new knowledge creation, in particular, if the focus is on conversion from one form to another.

The limits to exploitation in organisation learning can therefore be supplemented by an alternative learning orientation, which is exploration (March 1991; Garcia et al. 2003; Miller et al. 2006; Raisch et al. 2009). Exploitative learning assumes a continuous move between different types, but by re-iterating path-dependency, the focus is on the cumulative view of knowledge creation. Less attention is given to the possibility of unexpected discovery, or insight, which cannot always be predicted from prior knowledge. New information can update existing knowledge unexpectedly, but this is not explicit in most debates on knowledge creation. Knowledge can become a liability if it does not take into account the changes in organisational and industry context (Teece et al. 1997; Teece 2000).

The cumulative view is about refinement and implies that better quality knowledge eventually accumulates (Boisot 1998). But to stay relevant, knowledge assets also need to be renewed. The implication is that organisations must explore and learn through new insight as well as through learning-by-doing. The combination of the two hints at a more dynamic nature of knowledge, not just an accumulated stock over time. Existing knowledge, by embedding itself in organisational routines, provides continuity in behaviour and performance, but also produces biases against exploration (March 1999). Therefore, individuals with power to change things can orient organisations towards a greater, and necessary, balance between the two modes (Boisot 1998; Raisch et al. 2009).

The concentration of debates on organisational learning and knowledge creation has, however, minimised the role of individuals who contribute to both types of learning. The

need for specialisation which is important to build expertise has been largely ignored, as have the knowledge integration mechanisms. The role of the organisation is to provide such mechanisms, in order to develop capabilities which contribute to value creation and competitive advantage (Grant 1997; Prieto and Easterby-Smith 2006; Teece 2007). But, a lot of management research has done just that; it has minimised the role of individuals who must specialise in order for knowledge to accumulate and add value (Grant 1996a).

The firms provide the physical and social structures that shape knowledge, which is grounded in individual experience and expertise (Teece 1998). The non-imitable nature of stocks of knowledge makes them valuable. Grant (1996a) emphasises the role of individuals in creating knowledge, and like Simon (1991), argues that organisational learning takes place through the learning of its members and contact with other individuals. The studies of Castanias and Helfat (1991) have assessed the role of top management and managerial expertise as rent-generating firm resources, but no indication has been given in terms of their application. In contrast, Gunter McGrath et al. (1992), for example, have examined managerial actions in shaping the technical design, but not the application of knowledge.

As managers negotiate, make decisions and transact, how they apply knowledge can significantly change the course of strategic outcomes (Child 1972; Castanias and Helfat 1991, 2001; Starbuck 1992; Grant 1996a, 1997; Teece 1998). The dynamic capabilities are a useful tool in that regard. The tool merges different theoretical perspectives, by recognising the important role of managers in identifying and capturing strategic opportunities (Augier and Teece 2009). The innovation process relies on selection and orchestration of intangible and tangible resources. This takes time. In the process, managers make investment choices and coordinate the application of assets. These influence the development of routines and consequent reconfiguration of assets inside the organisation (Augier and Teece 2009).

The role of individuals and organisational experience in knowledge creation are clearly significant. Organisations can learn bad as well as good things, and a previous asset can turn into a liability (Leonard-Barton 1992; Boisot 1998; March 2008). Experience and history matter, but bad learning can ignore changes in context and influence actions for the worse (Eisenhardt and Martin 2000). The balance between the exploitation of existing knowledge and exploration to create new knowledge therefore cannot be ignored (March 1991, 1999, 2006). The decision is made by managers who lead organisations towards growth (or decline), with eventual exploration based upon what individuals in the organisation do.

The creation of knowledge is not solely a rational, but also a learning process which involves sense-making, interpretations and integration with many sources of knowledge and experience. Individuals develop cognitive simplifications, or abstract models, to deal with complexity (Schwenk 1984; Boisot 1998). Interests and preferences come to bear on what they do and the decisions they make as a team. Such incompleteness almost eliminates the debate on whether knowledge is an exogenous or an endogenous factor of production and influence. Instead, it shifts the focus towards the gradually changing balance of those elements and the potential for knowledge to be applied in novel, value-adding ways.

The view of knowledge as an asset, embedded in the heads of individuals and organisational rules (routines) and practices, has been challenged by some scholars. Firstly, some prefer to conceptualise knowledge as something that organisations do, as opposed to something they have (Blackler 1995). The main idea is that instead of treating knowledge as a transferable commodity, it should be conceptualised as a process through which individuals and organisations learn, and achieve their knowing (see e.g., Weick and Roberts 1993; Blackler 1993, 1995; Cook and Brown 1999; Brown and Duguid 2001). Knowledge is treated as an ongoing accomplishment within a system of practice (Orlikowski 2002).

Secondly, the local context of application is important, as every organisational culture has not only its own body of knowledge, but its own ways of knowing. It is argued by some scholars that the interplay of knowledge and knowing can generate new knowledge and new ways of knowing (Cook and Brown 1999). This makes an attempt to bridge the gap across the epistemological divide, but remains theoretical in terms of its contribution to debates. The significance of the knowing perspective is that it sheds light on what makes knowledge dynamic and susceptible to transformation in practice, as opposed to a fixed resource.

The alternative view assumes that what is known is transformed through application. The focus is on real-time application of knowledge in local context. The process of knowing is (a) mediated through systems, technologies and collaboration; (b) situated in time and space, so interpretations are context-specific; (c) provisional, or constantly developing; (d) pragmatic in the sense that actions are object-oriented; and (e) contested in that conflict is expected to occur between actors and their interpretations (Blackler 1995). The focus, it is argued, should be on the system through which individuals achieve knowing, on changes that occur within it, and on the process through which new knowledge is generated.

That knowledge is emergent (and local) reduces the influence of path-dependency and highlights the role of context (Weick and Roberts 1993; Tsoukas 1996). Organisation is a distributed knowledge system which guides collective behaviour of individuals whose dispositions to act influence what they do (Tsoukas 1996). Individuals' actions and how they relate to others, influence the creation of collective meaning (and knowing) which occurs in ongoing social practices (Spender 1994a). It is within these practices that some level of conflict is likely to occur. This could be conflict on the interpretation of an issue, or a preferred course of action. To move forward, these would have to be resolved to an extent, but not much is known in terms of how such resolutions emerge in practice.

2.3.4. Knowledge and Value

Since definitions and views of knowledge vary, it will come as no surprise that the value claims have also been challenged by groups of scholars. There are several grounds for identifying and establishing the value-adding potential that have contributed to the intellectual debate in the field. The value factor has, first of all, been examined from the resource point of view (i.e. is it the most important resource?). Furthermore, it has been debated from the type of knowledge point of view (i.e. is tacit the most important?) and the level of knowledge point of view (i.e. is individual the most important?). The conclusions have highlighted that the shape of the most valuable knowledge assets is likely to vary.

The broad organisational context, in terms of how it facilitates and handles the development of knowledge assets is likely to have bearing on knowledge preferences and what ia the most important type (Boisot 1998). Knowledge is an asset, but as a resource it shares criticisms that apply to all resources, and the variability that exists in their contribution to performance (Spender 1994b; Kraaijenbrink et al. 2010). There are too many variables in-between application and performance to be able to argue that it leads to the creation of competitive advantage, but there is no doubt it contributes to it (Eisenhardt and Santos 2002). In dealing with uncertainty, knowledge can increase the likelihood that such positions of advantage will be achieved, but are not by any means guaranteed.

An emphasis on organisational knowledge creation has perhaps minimised the role of individuals. But, organisational routines remain important as they bring individuals and different types of knowledge together in a task, or an activity (see e.g., Teece and Pisano 1994; Kogut and Zander 1996; Eisenhardt and Martin 2000; Helfat and Peteraf 2003). The

dynamics of time imply some non path-dependent learning. From a strategy point of view, a firm would need to know what it wants to do, how it will achieve its objectives, what will make it different to competition, how it will roll out its strategy and importantly, how it will make money (Hambrick and Fredrickson 2005). The outcomes of these processes are not solely knowledge-dependent, but some knowledge is present at all times.

Individual knowledge is not considered to be the most important knowledge type in some research arenas. In line with Daft and Weick (1984) who conceptualise organisations as interpretation systems, Spender (1994b) proposes that it is the context or system of practice which influences what is done and how, by managers who have to do it. He argues that knowledge is a process of ongoing social construction. It is collective knowledge that remains unknown to individuals, that provides a co-ordinating mechanism for bundles of individual resources (Spender 1994b, 1996a). He further points out that individual and organisational knowledge are not two of the same (i.e. that one becomes the other), and that collective knowledge emerges at organisational level, independent of its members.

Collective knowledge provides a system of practice for the application of different types of knowledge. It is argued to be the most important knowledge, and one which is not a direct result of actions of managers; rather, it guides their behaviour (Spender 1994b, 1996a). It attempts to add dynamic to knowledge application, but remains within the realms of dichotomies and is based on the assumption that clear-cut distinctions can be made between different types. The argument nevertheless advances the debates by linking collective knowledge to the context which provides mechanisms for coordination of individual resources. Further assessment of this collective element, that guides action, could therefore potentially be achieved through theoretical advancement of the field.

Knowledge creation, according to this view, is not necessarily a direct consequence of individuals' actions and their relative contributions to organisational activity. Instead, collective knowledge as the primary source of value is a reliable representation of organisational skills and resources at a point in time. It is difficult to replicate knowledge without the social community. Similarly, Kogut and Zander (1996) suggest that knowledge is system-dependent, and that the system provides the context through which to structure, co-ordinate and communicate individual and organisational expertise. The context is important relative to knowledge application, but none of it would be possible without individual resources to co-ordinate; the two are mutually dependent, and complementary.

Knowledge assets, such as technology and experience, are important sources of growth for organisations. However, they do not lead to success on their own. What competitors do and when they do it, can make a difference to own performance. Knowledge makes performance more reliable, by reducing variations, but an increase in reliability is not a guarantee of competitive advantage (March 1999: p.131). Scale matters, outcomes may be as a result of a placebo effect, and ignorance is often as useful as knowledge (Starbuck 1992; Alvesson 1993; March 1999, 2006). Ignorance eliminates bias (and inflexibility) inherent in existing knowledge and experience is not always the best teacher (March 2008).

March and others who highlight the importance of organisational experience have, like Spender, questioned the ability of individuals to change things. But whilst, organisations impose limits on application of knowledge, managers are required to act (within those limits) for decisions to be made and implemented. If the unexpected occurs, managers will need to make internal adjustments in order to respond and allocate resources to maximise the use of those resources and capabilities (Teece et al. 1997). If what they know becomes embedded in the organisational fabric, they do change it over time. The unclear links between knowledge and macro level outcomes suggest that studying processes which contribute to firm performance can provide some insight into its contribution.

2.4. Summary of Theoretical Approaches

The RBV argues that a firm's resources provide useful services which can change across contexts. Furthermore, it highlights that their accumulation is a function of how they are used. Knowledge is one such asset that comes in various forms which can change. Over time organisations learn and that learning is associated with the creation of new knowledge. Both arguably support the evolution of dynamic capabilities by helping organisations to reconfigure, integrate and build internal competences in a way that makes new combinations of resources more valuable. This also improves the services of resources that accumulate over time, and which can be used in novel ways in the future.

Knowledge is perhaps the most valuable due to increasing returns that result from its application. However, the issue with knowledge is that it cannot be directly observed. At the same time, to continue to add value, it must be renewed, or replaced with new knowledge. The research from existing scholars reveals the possibility of knowledge as a resource that can be renewed through a (localised) process of knowing, within a system of

practice. In light of this, there are two shortcomings of the RBV that emerge from the discussion so far. These will form the theoretical underpinnings of current research:

1.) The accumulative view of knowledge as an asset focuses on acquisition and protection of resources. It does not address that knowledge is something which can also be created during organisational processes. It also does not explain how resources are drawn upon and utilised during the process; specifically, it does not address what happens as knowledge is articulated into organisational activity that it shapes to some degree, and that in turn, is shaped by it. To a large extent, the RBV ignores the potential influence of context, and more specifically, changes in context (Spender 1994b). Knowledge is a highly slippery concept and the RBV over-simplifies knowledge, when the nature of knowledge has not been satisfactorily captured or explained by scholars for thousands of years.

The context of application varies, and so does the definition and understanding of knowledge as part of that context. Distinctions between different types of knowledge are therefore very difficult to make. What is too tacit for some to understand, can be easily codified by another, and often in the same context. To make knowledge one or the other is not appropriate. Organisational processes, such as decision making, draw upon a wide range of knowledge 'types' depending on decision, the decision makers, and the context in which a decision takes place. Such a view requires the perspective of epistemological pluralism, and this will form one key theoretical perspective of current research.

2.) Blackler's (1995) view of knowledge as something that people and organisations do (as oppose to something they have) forms the second strand of this research. The view of knowledge as a transferrable commodity ignores its dynamic nature, and the possibility that it can be transformed and created during application. Knowledge can generate rents through application and the process of knowing transforms the resource as it is applied in local context. It is not only situated and contested, but pragmatic and provisional. This gives it the dynamic that the RBV overlooks by remaining focused on the macro level at which differences are not apparent, such as 'stocks and flows' and 'dynamic capabilities'.

The RBV states that resources provide a stream of useful services which can change in context, but it offers no explanation of how resources are used in the process. In other words, it does not capture the dynamic interaction between resources and processes which utilise them over time. It explains that knowledge is created by moving between individuals

and organisations and that through creation of new knowledge, organisations learn. But it does not capture the potential transformation of knowledge during a process, as it overlooks the significance of information flows which shape knowledge into an asset.

To understand some of this dynamic between resources and processes, a more flexible approach exists in literature. It focuses on the impact of information (flows) on the creation and application of knowledge assets. It breaks down the concept of knowledge and explains what happens to the asset as it is articulated into organisational activity. Importantly, it takes into account the contextual factors which influence its changing shape. Before explaining why strategic decision making is an appropriate vehicle to study knowledge application, the thesis outlines this alternative next.

2.5. The Dynamics of Knowledge Assets

Boisot's (1998) conceptual framework deals with some of the shortcomings in the existing knowledge management literature. The framework is not only insightful, but also helpful, as it adopts a more holistic view of knowledge as an asset. A key advantage over other perspectives on knowledge is that it helps to analyse and understand knowledge assets in a more flexible way. He created a 'space' within which information flows, and then examined how new knowledge could emerge from those flows. It means that knowledge is no longer split into 'either-or' types, but treated as positions within an information space.

The space is three-dimensional and more flexible than the two-by-two matrices that are used more widely. How these three dimensions come together at different points is what gives knowledge its provisional form and structure. The ability to move around that space is what gives knowledge its more dynamic quality than the alternative views it partly draws upon to advance the arguments. Each knowledge 'type' can move around that space, along those dimensions and it can change its position according to how codified and abstract it is at a given point in time. The context plays an important role in that respect.

This alternative conceptualises knowledge assets as stocks of knowledge which provide a stream of useful services. It is from their application that new technologies, competences and capabilities emerge. The framework examines the impact of information on the changing form and structure of knowledge through processes of codification, abstraction and diffusion within a population of agents. The processes convert useful knowledge into knowledge assets over time; otherwise, it remains an ambiguous variable within that

information space. Knowledge can pass through the three processes in that space and organisations can develop practices to maximise the value of knowledge assets.

The value of knowledge stems from its ability to economise on the use of physical resources: energy, space and time. Knowledge must be shared to add value, but it also loses value as it is shared. To deal with this paradox, Boisot argues, managers could develop two learning strategies to successfully exploit knowledge assets. One is based on the cumulative view, and the other on a combination of exploiting existing knowledge and replacing some stocks with new knowledge. The chosen strategy gives rise to distinctive cultures and institutional structures over time. New technologies and products emerge from those, and constant flow of new information helps these to evolve over time.

A clear definition of knowledge is relevant to debates on its value because it puts a frame around what is discussed and analysed in a study. The previous section highlighted some widely used definitions and challenges in terms of assessment. The concept is not a fixed factor, however, but a variable that through development, and between organisational (and industrial) contexts, can modify its definition. It was also proposed that knowledge is a structure which can change with the arrival of new information. The structure changes if the information is new relative to that structure. However, even with this available view of a problematic construct, most studies have remained in the realms of dichotomies. These create useful theoretical frames which do not always translate well into practice.

In some ways, the focus on organisational knowledge has been a pragmatic way of dealing with this shortcoming, but overlooking the value-adding idiosyncrasies that exist between the contributions of individuals in the process. In this framework, knowledge is defined as a capacity which builds on information extracted from data (Boisot 1998: p.12). This capacity is a set of probability distributions that helps to orient agents' actions. Agents also hold a set of expectations with respect to an event which can change, if the data is informative. Knowledge is a property of agents that predisposes them to act in a particular way. This can vary by agent and time as new information updates the structure. It cannot be observed, but only inferred from actions of agents. Any analysis therefore, on the application of knowledge would need to focus on their actions, or contribution.

The dynamics of knowledge assets seem to require a more flexible basis for value assessment. Knowledge as a variable is embedded in artefacts, documents and brains of

individuals and organisations. These are accumulated stocks of knowledge, which provide useful services, but the focus is not on tacit and explicit types. The focus is instead on processes of codification and abstraction that turn potentially useable knowledge into knowledge assets, such as expertise. These assets in turn, have value-adding potential. The two processes are ongoing, unless they get blocked at some point in Boisot's information space and are central to understanding the application of knowledge assets.

Knowledge assets, it is proposed, represent a subset of dispositions to act which are embedded in individuals and organisations. There are different types of knowledge assets which vary according to the extent to which they can be given form and structure; or the extent to which they are codified and abstract. The more codified and abstract the better as it makes the knowledge asset more usable. To add value, codified and abstract knowledge must be diffused within a given population. How knowledge assets come together varies. At strategic level the reconciliation of different interests makes the application more political in order to bring about some consensus around a key issue.

Agents scan, codify and abstract insights which are diffused and absorbed, before being embedded in organisational routines, and becoming common practice. There are three things here. Firstly, it does not mean that the cycle will be completed and so diffused knowledge may not be used. Secondly, sometimes it diffuses more rapidly than at other times. Knowledge that is well codified and abstract is usable and easy to share; knowledge that is data rich, qualitative and ambiguous is not. Thirdly, as understanding develops the abstract knowledge can become more fluid and over time the knowledge that is easy to share can become enriched with experience and interpretations of the world. It can become embedded in heads of individuals who find it hard to share (Boisot 1998: p.xiv).

Knowledge assets are built through learning and most of organisational learning is based on the learning-by-doing mode. But the act of insight is equally, if not more important. It "generates meaningful patterns that convey useful information about the world and it modifies a system's disposition to act" (Boisot 1998: p.30); it creates knowledge. The emergence of insight cannot be predicted from prior knowledge of data, or the characteristics of the data processing agent. It can enhance an existing asset based on new patterns. What is learnt and by whom is variable; as is the shape of knowledge assets. The services produce non-linear outcomes. This non-linearity makes it difficult to track the value of knowledge as it is applied, but it helps to explain the emergence of insights.

This more flexible approach therefore proposes that knowledge remains an ambiguous variable in space and time, unless it is codified, abstracted, and diffused. Some knowledge diffuses more or less easily. Both codification and abstraction economise on information processing and communication. Codification maintains clarity and distinction between categories and makes knowledge concrete. Abstraction focuses on structures that underlie data and it generates concepts. Diffusion is affected by means of communication and prior sharing of context. Cultural context will 'select' which messages are relevant and which will influence absorption of information. We examine each process in more detail next.

Codification takes knowledge from inarticulate and complex to articulate and simple. It creates perceptual and conceptual categories that facilitate classification of phenomena (Boisot 1998: p.42). There is an increase in data processing, and each knowledge asset or task can be scaled along the codification dimension according to the amount of data processing it requires. The ease or difficulty of codification depends on the phenomena that need to be categorised. In general, the fewer the attributes there are, the fewer competing alternatives to choose from. Over time codification creates clarity and distinction between categories. The only danger is that too much codification can lead to fossilisation of tasks, so maintaining flexibility is important. With experience codification becomes easier to do and it facilitates abstraction by making data categories visible. It gives knowledge form.

Abstraction offers a conceptual understanding to facilitate interpretation of what is being seen; it gives knowledge structure. It minimises on the number of categories that are needed to draw upon in a given task. It facilitates codification by reducing the number of categories whose bounds need defining. The creation of categories indicates that knowledge can undergo transformation and that this provisional quality makes it subject to revision and improvement (Boisot 1998: p.51). The extent of codification and abstraction depends on the existing form and structure, i.e. the extent to which it is already codified and abstract respectively. With increased understanding, both are easier to do, and knowledge, diffuses more easily within a population of agents. The challenge is to avoid wrongly coding and abstracting data, which would imply organisations and agents learning bad things. The ambiguity of experience, however, does not make this an easy task.

Diffusion depends on the available means of communication, prior sharing of context and its speed depends on intensity of interaction. Organisational culture will influence what is diffused, and therefore, how products and technologies develop. But a difficulty arises here.

Knowledge cannot be directly observed or analysed. What is seen in practice, are representations of knowledge, as an embedded variable in knowledge assets, such as managerial expertise, technologies, artefacts and social practices (Boisot 1998). As it cannot be observed, some form of interaction is required to diffuse it. This also suggests that knowledge assets can and do change. What is highly abstract at a point in time can be codified and diffused at a later date. The arrival of new data and information triggers learning which can create new knowledge, and which can be applied in a novel way.

Creating knowledge is about the generation of new insights through a process of extracting information from data. This insight is emergent, and it cannot be predicted from prior knowledge of data or characteristics of the data processing agent. It conveys useful information and modifies an agent's disposition to act. Insight creates new knowledge. Without insight experiential learning has nothing to build on (Boisot 1998: p.35), and this is left out of analysis of organisational learning as dependent on history and past experience. Existing knowledge can be modified by information, or insight, and the extent to which its form and structure change, will depend on how codified and abstract it is already. New information can also modify agents' expectations (knowledge structures). Upon arrival of new information, the probability distribution of an event happening will either undergo transformation or it will consolidate with other knowledge. The more modified the expectations, or dispositions to act, the more informative the data is to agents given a task.

Applying knowledge means testing insights created in a variety of situations that allow for gradual accumulation of experiential data. An insight can be passed from one decision making process to the next, as insights are not necessarily tested in the same process. There is a lot of hindsight. This means that insight can be brought in from a past application process and it triggers the creation of knowledge in current process. Without the gradual accumulation of experiential data the act of insight has nothing to feed on (Boisot 1998: p.35). Knowledge assets emerge from the creation and application of new insights, but as Simon (1991) pointed out, the creation of knowledge assets, such as expertise and skills, can take a long time to materialise. It means that the insight created can be applied in the future and knowledge assets are likely to emerge over a period of time.

Learning-by-doing and learning-by-insight are processes which reinforce each other. This reiterates arguments made elsewhere in the literature, that experience matters to both individuals and organisations (Nelson and Winter 1982; March and Levitt 1988; March 1991,

1999). The generation of insights which are absorbed by existing knowledge assets implies that insights can be applied to new problems, or new knowledge can be created as it is applied (Starbuck 1992). This point is left out of traditional economic analyses which treat knowledge as an exogenous factor, and ignore the fact that firms also create own knowledge. New knowledge builds knowledge assets which are manifested through the services they provide, such as functionality and price. The social learning cycle (SLC) which we look at next sheds some light on the development of knowledge assets over time.

SLC builds knowledge assets, in a local context that is an information space, although the organisational culture and its learning orientation will impact the development process at the same time. There is first of all cumulative learning which is concerned with knowledge spreading incrementally and replacing faulty knowledge. It is equivalent to exploitation in organisational learning literature. The danger here is one of inertia and doing the wrong things over time. Progressive learning on the other hand, is not cumulative, but nonlinear as knowledge passes through the SLC. This type of learning relies on a combination of exploration and exploitation to build knowledge assets. The orientation is dependent on organisational culture. Transactions between agent that take place in the information space vary by culture as some will favour more abstract, and some more codified knowledge

The creation and the diffusion of new knowledge activate codification and abstraction, through SLC, which turns personal into common knowledge (Boisot 1998). There are phases in the cycle, each with a different function. SLC starts with scanning which presents an agent with a field of experiential data about what is going on. Not all data are meaningful, and the selection will depend on the agents. The insights that emerge during the scanning phase are given form through codification during the problem solving phase. The codification is followed by abstraction and generalising the application of codified insights, which may not be shared with others. But if diffused, it would be easier to do so, than to pass it on in non-codified form. The absorption phase is about applying newly codified insights in a learning-by-doing fashion. Finally, during the impacting phase of SLC, the abstract knowledge is embedded into concrete organisational practices.

The shape of SLC will be affected by how information flows impact the embedding of knowledge. The key issue is that the cycle can break at any point and block knowledge flows. At the scanning stage, data may bypass an agent, and that which one experiences may not be the same as for someone else. During the problem solving phase data may be

codified into insights which may vary for each agent. At the abstraction stage, not all insights will find general application; or some may be ignored. Diffusion involves sharing of insights which will depend on the population of agents. Absorption is about learning-by-doing and impacting practice where each recipient can apply it or not. Even though it is shared it may not be used, such as a document that not everybody reads. Impacting is about embedding knowledge in concrete practices; so for example, what is done in current process, may not be embedded, but can serve as a type to do in the future.

As knowledge assets facilitate learning, organisations have to maintain a balance between complexity reduction and absorption; too much of either can impede productive activity (Boisot 1998). The first is concerned with codification of data and the second with abstraction, which allows for steady accumulation of experiential (tacit) knowledge inside the organisation to facilitate growth. How good these two are indicates how good the communication is and how good organisational processes will be. If codification is faulty, wrong data may be selected and valuable data may be discarded. Or, during a process such as decision making it may be retained in implicit form and used at a later date. The diffusion of knowledge will then depend on factors mentioned earlier, but as a lot of it stays tacit its diffusion will, depend on interaction between different agents to a large extent.

In summary, knowledge is a variable, open to experience and insight, which can be transformed due to an inflow of new information and codification and abstraction processes. The more informative the data, the more modified the knowledge will become. It can change in form as it comes into contact with new experiential data. As a variable, it moves around a (conceptual) information space and embeds itself in knowledge assets which are positions in that space. This alternative, dynamic view takes knowledge beyond the 'tacit-explicit' conversion. Its form and structure whilst embedded in individuals, as expertise for example, is different to that when it eventually becomes diffused and is embedded in organisational routines, or codes that guide behaviour.

2.6. Summary on Knowledge as an Asset

Knowledge is a construct that through codification and abstraction can become an organisational asset. It has to be shared to add value, but in being shared it becomes less valuable. The services it provides change with the extent of codification and abstraction. This can change with context (e.g. organisation, or project). The view of knowledge assets which draw upon information is different to those of scholars who define knowledge loosely, as a justified true belief, or that which is known. The focus in most studies is not on information flows, but stocks which are an input into organisational activity. These stocks change from one form to another, and ignore the impact of information on the changing form and structure. This is a key point of difference, and a fundamental one.

Most scholars focus on knowledge creation and application in physical space, instead of studying the interaction of different knowledge types according to form and structure. The interaction depends on how codified, abstract and diffusible knowledge is at a point in time. Context influences the interaction, the learning cycle and the extent to which knowledge embeds itself in individuals and organisational processes. Preferences for different learning modes will create different SLCs. Production teams, for example, may prefer different types of knowledge assets to strategy or marketing teams. This can also include varying degrees of codification and abstraction of each knowledge asset. Their application will impact the development of products, technologies and organisations over time.

An important function of knowledge is to add value in processes which impact firm performance. How knowledge assets come together at strategic level is not the same as doing a routine task or making a routine decision. The complexity and ambiguity at strategic level mean that knowledge will have to go through some degree of codification and abstraction, in order to update existing knowledge assets. This can also take a long time. Some knowledge will win out to others, and some may diffuse only within a small group of individuals. These are likely to have at disposal more codified knowledge which can modify their actions. Knowledge assets do not fall into rigid groupings, so it is about creating conditions that support their development, transfer and diffusion within a team.

The dynamic alternative offers insight into how knowledge is transformed in form and structure. However, most senior managers do not sit down, codify knowledge and track its development through SLC in practice. Spontaneity raises too many questions about the

value of knowledge and its application. Senior managers often rely on general judgement and experience to inform decisions and actions. This is different to conducting a detailed analysis of opportunities and alternatives. Although it is useful to understand the underlying theory, as insight without experiential data to feed on, it cannot develop the field on its own. To investigate the dynamic use of knowledge, it is necessary to select an organisational process that provides a context within which we can examine what agents contribute, and how the context impacts the contribution. We explain the choice next.

2.7. SDM: A Vehicle to Study Knowledge Use

Decision making underpins virtually all organisational activity. SDM is the most critical decision process as it produces a handful of decisions that directly influence the future of organisations. In the face of uncertainty, each has to make important decisions about what to do next; for example, what new products and services to launch, how to restructure or which technology innovations to invest in. Once they decide, they have to implement these decisions. The process is highly dynamic and it involves individuals searching for information, making sense of the world and interacting with others involved in the decision making process. The process can last for a few months or a couple of years or more.

Strategic decisions that are generated need knowledge to make them work. Next, we examine the characteristics of decisions which are the main outcomes of SDM. These are well researched and backed by some empirical evidence over the years, so there is literature to draw on and link to resource-based discussions. Here, we argue that distinctive characteristics make strategic decisions the appropriate units through which to examine utilisation of knowledge and its value as a strategic asset. In doing so, it will overcome some of the shortcomings in existing RBV literature that were outlined earlier.

2.7.1. Characteristics of Strategic Decisions

SDM produces decisions which have major impact on firm performance. If firms are heterogeneous in terms of resources and capabilities, it means the decision making capabilities that generate the decisions will be highly variable across organisations. The potential sources of advantage therefore lie in their differences as the shape of the decision will vary. Even within the same organisation, there are some differences between processes used for different types of strategic decisions (see e.g., Cray et al. 1991; Dean and Sharfman 1993; Nutt 2001; Elbanna and Child 2007). As Hickson et al. (1986) put it – topic matters.

To illustrate, the process for a merger or an acquisition would not be the same as the process for a new product launch. The complexity of the topic also varies as much as who is involved. The two decisions may be led by the same dominant coalition, but would involve different groups of people. The decisions would be different in terms of risk associated with their execution, and each would have different purpose in terms of its strategic aims. If organisations and individuals learn through experience, then decisions that address different problems imply that learning resulting from those would be different, too.

The impact of strategic decisions is significant. There are relatively few of them. Hickson et al. (1986), suggest five to seven at any one time. But, their size and importance means they exert major influence over firm performance, its strategic direction and future opportunities in the marketplace. A weak product will not only result in weak sales, but could potentially damage the reputation of the organisation and its brand which could have lasting consequences for years to come. Given their highly complex nature, and their lasting impact, they need different types of knowledge (assets) to make them work.

Some knowledge would belong to decision makers, such as their expertise. At the same time, they are also likely to draw upon different types of knowledge in order to take the decision process forward. Their effort would be underlined by organisational practices in terms of how they make and implement decisions. But, even with all the knowledge at their disposal, improvisations along the way are inevitable. The chances are that a group of people who are involved would a lot of the times work to get things roughly right and not wait for the relevant knowledge to be available to them at a point in time.

Next, we outline the characteristics of these decisions and draw upon (well-researched) points made by Wilson (2003) as a guide. Then we will examine the implications for knowledge application and creation during the process. Since not a lot is known in advance, these decisions are likely to generate new insights as the understanding of each one develops. This would be variable, given that decision processes vary considerably in length, even if it is the same type of decision.

The novelty of strategic decisions to the organisation means that circumstances under which the decisions are made are never the same as the last time (Hickson 1995). It means that directly comparing a decision to the same type of past decision, such as a new product, would not be enough. Since a decision is unstructured at the start, there is very little

understanding about the situation or the 'ideal' solution (Mintzberg et al. 1976). The need for information search and analysis stems from the fact that strategic decisions, by nature, deal with complex problems that need to be defined and then analysed before a decision is made. An understanding of the problem is required to find a solution. The alternatives are not given, but have to be discovered, expectations are developed and desires are not exogenous to processes of choice (March 1999). There is rarely one best solution.

Strategic decisions also require organisation-wide commitment given that each one cuts across departments. This implies that reconciliation of priorities across different business functions is needed to get the support behind them and make them work. It is a challenge especially as each would have own responsibilities, understanding and interests in different topics. There is often friction between finance and IT functions, for example, but some level of consensus has to be reached even between the more incompatible areas.

A host of expected and some unexpected differences, across organisational levels, is often resolved, although not in entirety. An important decision that is to be made needs to be given priority, so the reconciliation of conflicting goals and interests is something that would most likely need ongoing support. However, organisation-wide commitment is quite difficult to achieve and tends to require a lot of work on part of those driving the decision process forward. This would also influence the relative contributions in the process.

There is almost certainly sharing of resources for different types of decisions, as they are all working towards the same higher goal for the organisation. For example, a marketing director within a large organisation would have responsibility for a couple of decisions, one on a new advertising campaign and another on market segmentation. S/he may not treat the decision in the same way, or may give more attention to one than the other, or as a decision maker would be involved in two decisions that are not within the marketing remit.

Strategic decisions are contested by nature. The more interests are represented in the process, the more political the decision. Besides different priorities between business functions and trade-offs between options associated with each decision, there will be competing interests trying to influence the outcome in line with own preferences. This can occur within the senior group leading the process, in the boardroom, without necessarily involving those who do the work. The decision can represent more or fewer stakeholder

interests and as such, requires reconciliation of competing interests and interpretations within the group (see e.g., Mintzberg et al. 1976; Wilson 2003; Nutt and Wilson 2010).

Each of these decisions is resource-intensive; they need knowledge, but they need other resources, too (Wilson 2003). A large financial investment is associated with each decision, so a decision has to be made on how much financial backing to set aside at the start, and if the amount is likely to change in the future. But, besides the more conventional resources, each decision also requires substantial time commitments from those leading the project. To understand circumstances and the problem takes time. To make a decision can take a very long time. In the case of each senior decision maker, a lot of different decisions and projects would require their time and attention at any point. Time is probably one of the scarcest managerial resources, yet arguably one of the most important ones.

High level of uncertainty associated with strategic decisions links them directly to the external environment. Each decision involves an element of risk. Different types of decisions carry varying degrees of risk which is likely to impact how fast they are made (Eisenhardt 1989a). Some risks may be associated with reputation or potential return on investment, but many are tied to variables in the environment. There are many unknowns and it is not easy to predict changes in that environment over time. For example, there would be economic factors that have direct bearing on a decision, and that change quickly. There is also the impact of new technologies on customer behaviour, their preference and levels of expectations, as well as competitor behaviour relative to their own.

Strategic decisions are difficult to reverse when they go wrong. The complexity of relationships in the environment is high. The future is uncertain, with windows of opportunities narrowing and organisations required to act fast in order to acquire them. The decisions set precedent for other decisions, such as evaluation criteria, or product template. It is not easy to define a decision at the start, and once they are implemented, there is lack of clarity in terms of performance assessment. The ambiguity along the way implies that what decision makers know and desire is subject to change over time. Their actions are not driven purely by calculation and logic, but by insight, improvisation and finding out what works (Mintzberg and Westley 2001). The decision failures are therefore not hard to understand and are to be expected (Nutt 1999, 2002). The best the decision makers can do is to increase the likelihood of decision success.

2.7.2. The Importance of Knowledge in SDM

The characteristics of strategic decisions hold a number of implications for learning and knowledge application. The degree of each will depend on the decision. Some may be more or less resource-intensive, for example. But, all can demonstrate how through the process of their generation teams of decision makers learn new things and how knowledge as a resource is developed, or created as a result of their participation and work. We also know that stocks of knowledge are used to build knowledge assets, which through application create value. Therefore, given the nature of the process, changes are likely to occur in knowledge as a structure, which can be identified by examining the application of knowledge assets, such as expertise, by those who take part in the process.

Firstly, since not a lot in known in advance, it means that managers have to apply what they know in order to gain knowledge specific to a decision. Secondly, due to their nature, decisions would need different types of knowledge, some of which will belong to the individuals and some to the organisation. They can each also use more or less knowledge depending on the type of decision, and level of risk associated with each one. Thirdly, in applying different types of knowledge, they will also generate insights, which given the novelty of decision can vary significantly. Lastly, given the nature of the strategic decision what they would need cannot be always anticipated in advance and it is something likely to become clear as they start defining the decision, or the problem it is trying to solve.

Two further points were highlighted earlier that are also of relevance here. Firstly, that power is knowledge as much as knowledge is power, but is something overlooked in debates on knowledge as an asset. It implies that what is known and the learning orientation of the organisation can be influenced through that power. Therefore, those who have power influence the development of knowledge assets. Secondly, at strategic level integration of knowledge assets is a political business. The process of integration requires a negotiated adjustment of those who take part, "as a variety of concepts, interpretations and preferences have to be combined together" (Boisot 1998: p.5).

Power and politics are important influences on knowledge application in organisations. How knowledge is used can reduce or increase the relevance of some strategic issues. "Past can be interpreted in many different ways and future outcomes are contested, the system in the present is brought about by filtering of information brought about by relations

of power and politics" (Pettigrew 2003: p.302). The information flows impact how knowledge assets develop which implies that individuals' knowledge base will be influenced by the context of application. This is similar to the argument that it is victors who write history. Even in organisations the history is important to understanding the present.

SDM involves the allocation of scarce resources, interdependent coordination of efforts to put a decision into practice and the reconciliation of interests and priorities between different groups and individuals. Decision makers can and often do use what they know as a source of power to get things done. Therefore, if integration of knowledge assets is a political business, it means that how knowledge is used and the types that are used will be impacted by the use of power and politics. In empirical studies, knowledge has manifested itself as rationality and comprehensiveness, management characteristics and political influence (refer to Appendix 1). Only in recent studies on implementation has the importance of experience, or knowledge base, come to light (refer to Appendix 1).

The involvement of key strategic actors has been highlighted, but even those empirical studies are underpinned by an assumption that some knowledge is brought in, without specifying what is used and how. The focus of most studies is on direct associations to decision outcomes, or firm performance. They remain focused on the process characteristics or dimensions. The studies that focus on knowledge use during decision making are few in number. Rajagopalan et al. (1993) have pointed out how focusing on the macro level minimises the role of individuals and groups in strategic decision processes and that micro level studies could provide useful insights. New empirical evidence could therefore contribute to debates, firstly, by focusing on individuals as oppose to the characteristics of the process; secondly, by assuming a more dynamic view of knowledge in the process; and thirdly, by taking into account the political dimension.

2.7.3. The Use of Power and Politics in SDM

The use of power and politics in decision making is not new, but has been largely left out of knowledge debates. If interests and priorities need to be reconciled, then knowledge may be used as a source of power and influence. Senior managers can, for example, draw attention to some issues but keep others off the agenda. This means that the importance of issues highlighted may not be based on objective criteria (Bachrach and Baratz 1962). Problem definitions and evaluation criteria of alternatives at business unit level can be used

to manipulate decision outcomes (Dean and Sharfman 1993). A decision maker can try to maximise own gains by sharing or withholding information, or use language and authority to promote some matters, and obscure others (Bachrach and Baratz 1962). In more controversial decisions, selling own point of view even though not to collective benefit, and building a rationale for action, also indicates political use of knowledge (Brunsson 1982).

The mobilisation of bias through everyday routines affects what gets attention, what counts as a strategic issue and reaches the agenda (Bachrach and Baratz 1962; Dutton and Jackson 1987). The bias in those routines impacts the exercise of power, authority and influence in decision making. These are relational and involve the rational perception of conflicting values (Bachrach and Baratz 1963: p.640). Managers have control over some information and possess knowledge about issues, which can be shared, or not. These are power resources and communication systems which link different business units are carriers of that power (Pettigrew 1973). The diffusion of knowledge also depends on the quality of these communication systems and how new knowledge is created across organisations.

This two-dimensional view of power highlights less obvious ways of its exercise. A manager or the entire team may be supporting the non-decision process, as oppose to the decision process, by keeping controversial matters off the agenda (Bachrach and Baratz 1962, 1963). The three-dimensional view of power adds another dimension by further suggesting that not all decision making is observable but nonetheless shapes the process (Lukes 2005). According to this view, there will be control over the political agenda which is not necessarily through decisions. There is also latent conflict between real and subjective interests that may need to be resolved to make a decision and influence outcomes.

The use of power and politics can be critical to success of decisions. For example, in the case of an internal restructure, reporting relationships change, or working relationships may emerge as a result of new product launch. Interdependence between different units and strategic actors implies there is a need for influence. Mobilisation of bias can be a positive as well as a negative influence, as can guiding senior level conversation relating to a decision in a particular direction. Negotiation and bargaining are as important as planning and analysis in SDM. Decision makers are as political as they are rational with a stock of personal sources of power, such as expertise and authority (Pfeffer 1992). Politics tend to carry bad connotations, but reconciling conflicting interpretation can be invaluable.

Strategic decisions are generated through a negotiation process of conflicting interests and priorities. In the process, power can be used to resolve conflict through formal authority, control of processes such as agendas, chairing meetings, and having authority to sign off on certain decisions. There is also control over scarce resources such as information that can be revealed or concealed when the time is right. Controlling flows of information can influence the presentation of alternatives, while control over technology, interpersonal alliances and networks are also powerful, as is charisma and the management of meaning in the group (Bachrach and Baratz 1962, Pfeiffer 1992, Pettigrew 2003, Lukes 2005).

The characteristics of strategic decisions impact knowledge application during the process, but little is known at this time. The difficulty of gaining access to senior decision makers has made it more challenging for researchers to investigate the process. Yet it is important, since the extent to which knowledge is codified and abstract will be specific to decision context. The dominant coalition in shaping SDM highlights the importance of managerial choice. How they perceive the problems or what they see as best alternatives for action will influence the shape of a decision. At the same time, supporting committees and teams can influence which strategic decisions are given priority in the organisation and therefore, the level of support for individual decisions. All this highlights the importance of understanding the impact of individuals' knowledge application during a SDM process.

Senior managers do not have a complete view of SDM, but they bring into the process some experience and knowledge which they can utilise in various ways. Given the nature of the process, new information and insights can emerge and often unexpectedly. However, we do not know to what extent this happens in practice and how it influences or is influenced by the decision. But, if we adopt a dynamic view of knowledge and take SDM as a learning process over time, it will allow us to study and assess the creation of insights, mobilisation of bias, and the use of influence. Only by examining what managers contribute can we gain insight into how knowledge is applied. Such a perspective puts decision makers at the centre of SDM. It also recognises that some decisions are likely to be more political and that the utilisation of knowledge in not the same in each strategic decision case.

2.8. Theoretical Position: The Dynamic Interplay

The RBV has centred on the heterogeneity of resources as sources of value creation and competitive advantage. It has focused on the accumulation and application of tangible and intangible resources such as information and knowledge. Their value-added can vary significantly. However, while the RBV acknowledges that accumulation of resources is a function of use, it does not explain how resources are utilised during organisational processes. It also ignores the possibility that knowledge can be transformed through application. The RBV recognises that new knowledge can be created, but the analytical focus on the macro level dilutes important resource differences between organisations.

In this research, knowledge is treated as a resource, which can be created and renewed, within an organisational process, such as decision making. This position stems from the dynamic interaction between processes and resources. Knowledge can be conceptualised broadly as expertise, or an ability to do something in practice. Two types of learning can renew the resource, and the ability to apply knowledge within a system of practice, which provides the context for the application. It is through a stream of decisional activities that new data, information and insights emerge, which can transform existing knowledge. Insights that are gained in one activity may be utilised (or ignored) in the next.

Knowledge is a provisional variable embedded in knowledge assets. Therefore, to make a claim that knowledge is an exogenous factor would be to assume that knowledge merely passes through a process, and that managers possess perfect knowledge of the world and situations they find themselves in. But, decision making is one of the most dynamic processes, which extends over a long period of time. This research calls into question the view of knowledge as a transferrable commodity and makes an assumption that senior managers' expertise can improve through participation in the decision making process.

Knowledge is likely to be transformed during the decision process, as understanding of the decision, and its unique set of circumstances, increases. This can happen in any decisional activity, and insight that is gained of situations and emergent issues, as they occur, can be applied in the next. As decision making is a central part of organisational activity, and as the quality of it depends on the application of different types of knowledge, the process itself is an appropriate vehicle that we can use to demonstrate the characteristics of the interplay between knowledge in its various forms and decision making.

Strategic decisions are characterised by novelty, which means that circumstances are never the same as the last time. They are irreversible, and require huge amounts of investment and cross-organisational commitment. They are relatively few in number, yet they exert major influence over firm performance. What and how something needs to be done is not always clear in advance. Knowledge of issues, structural links, working relationships, and how best to get things done, is gained over a lengthy period of time. The complexity of interactions at strategic level makes it necessary for managers to be creative at times, too.

Senior managers' knowledge of situations and solutions is limited. Lack of 'hard' evidence and resistance by others to contribute present additional challenges, as for knowledge to create value, it must be shared. Nowhere is this more the case than at the strategic level, where managers are faced with highly complex situations, imbued with a variety of (often conflicting) interpretations and preferences. One of the most difficult tasks facing managers is reconciling these, and one of the most critical ones, too, to moving the decision process forward. Compromises along the way mean that some knowledge and insights will be taken forward, to be utilised, at a later date, whilst some may be ruled out, and left behind.

As decision making is a dynamic process and knowledge provisional, in form and structure, this thesis argues that decision making is not only a knowledge-processing, but also a knowledge-creating activity. The point addresses the exogenous versus endogenous split, which could shed new light on how knowledge retains its relevance. What senior managers know changes over time and is subject to improvement as other strategic actors get involved. As insight is gained, understanding develops. Some knowledge will win out to others, and some will be replaced by new and improved knowledge. As strategic decisions are processed through an organisation, the application of knowledge itself will create cognitive and behavioural commitments which may be hard to break, or new knowledge may be created, which in turn, may break the commitments already in place.

2.9. Research Questions and Closing Remarks

The theoretical underpinnings of the current research (plural epistemology and dynamic) allow a number of key research questions to be posed. The key questions are:

> ➢ How does senior managers' knowledge interplay in the decision making process?
> ➢ What influences the use of their knowledge during decision making?
> ➢ How can the value of knowledge as a strategic asset be identified?

The first question is concerned with the useful application of knowledge during decision making. The importance of individuals has been highlighted by a number of scholars, such as Grant (1996a), Boisot (1998), Teece (1998) and Augier and Teece (2009), but the interplay between knowledge stocks has been largely ignored. The theoretical works of RBV scholars such as Winter (1987), Barney (1991), Peteraf (1993) and Teece et al. (1997) consider knowledge as one of the resources that can accumulate over time. Some have addressed the conversion between alternative forms, but remain focused on the organisational level (Nonaka 1994; Spender 1996b; Nonaka et al. 2008). A conceptual move away from dichotomies, by assessing what senior managers contribute in practice, can therefore shed light on the dynamics of knowledge as proposed by Boisot (1998). This research places individuals at the centre of analysis and is focused on their contribution.

The second question addresses the contextual influences on the application of their knowledge and over time. Much of the theoretical development in the RBV arena has overlooked the context, but has nevertheless encouraged further inquiry into the factors that have bearing on knowledge application (Spender 1994b; Blackler 1995; Boisot 1998). In line with Boisot (1998), the information flows impact the application of knowledge and development, but what emerges out of those information flows can influence further application in the process. There are likely to be influences not only on senior managers' knowledge assets, but also the types of knowledge that are brought into the process. To understand the value-added some consideration needs to given to local factors that can significantly influence the extent of contribution *during* the decision making process.

Organisations can create new knowledge through the application of different types of knowledge, resources and, in the process and over a period of time, alternating between different learning modes (Nonaka and Takeuchi 1995; Spender 1994a, 1996a). The characteristics of strategic decisions imply that new insights will emerge and that the study

of decision making processes would benefit from an analysis of interests and priorities where some conflict is likely to occur. The political influences that are present in decision making at strategic level therefore need to be taken into consideration when assessing the application of knowledge (Bachrach and Baratz 1962; Pettigrew 1973; Lukes 2005).

The third question is centred on identifying the value-added of knowledge (assets). The theoretical debates suggest that the value of knowledge can stem from either individual or collective application (Grant 1996a; Spender 1996a). Both can be equally beneficial to decision making outcomes, such as new knowledge and learning, for example, which support capability development (Teece et al. 1997; Eisenhardt and Martin 2000; Helfat et al. 2007; Helfat and Peteraf 2009). There is a related question of whether some knowledge stocks are more valuable than others. If the value is to be identified, what would be the 'measuring' yardstick? Is it about volume, or how it is used in the process? Do power and politics influence the value of knowledge assets relative to who is in the process, or not?

The RBV and KBV debates highlight the heterogeneity of knowledge as a source of value creation. It would therefore be useful to learn more about how the value of an asset potentially develops over time. Knowledge as an asset is multifaceted and the many definitions have made comparisons and the advancement of its study challenging. The research has taken place mainly through dichotomies which assume splits between different types which are not easy to make in practice. The bulk of theoretical debates remain centred on what knowledge is the most important, the value of the tacit dimension, and the conversion between types to create new knowledge, mainly at organisational level.

To deal with the limitations of traditional approaches, an alternative has been developed with a different foundation. It focuses on information flows and processes that convert useful knowledge into knowledge assets. This research adopts that more dynamic view which recognises that knowledge is an asset, but does not explain how it develops through application in practice. The relevance of knowledge to strategic decision making and the influence of the political dimension have been presented to the reader. The next chapter outlines the methods that were used to collect and analyse the empirical evidence.

3. METHODOLOGY

3.1. Research Design

There are a number of research designs that can provide a suitable framework for collection and analysis of data. Examples include ethnography, experimental design, surveys and case study research. The choice of the appropriate design comes down to one that helps to answer the research questions in the light of the ontological and epistemological assumptions about the world. It requires a consideration of the following:

- Whether we need to be involved or not in the situations we are investigating;

- Whether we need a small or a large sample of situations;

- Whether we are testing a hypothesis or trying to generate new insight;

- If experiment or fieldwork is most suitable to find out what we need to know;

- If we are seeking a universal theory, or understanding of local contexts in which the situations take place.

(Easterby-Smith et al. 2002)

The study of a multifaceted concept, such as knowledge, leaves the research open to a number of alternative ways to investigate its application in practice. The nature of the subject would have made more than one research method suitable, but in essence the empirical investigation aimed to generate new insight through fieldwork. It was not necessary to collect a large sample of data, or to spend a lot of time on the client research site. If more time and resources were available perhaps, the research could have benefited from a larger sample of data and greater involvement in the decision making process.

A detailed literature review, not only the research questions, pointed in the direction of a case study design as it can take into account the context of application and an understanding of factors that influence the application of knowledge relative to a decision. Experimental design, for example, would have been more relevant had the research focused on the cognitive aspects or rationality in decision making. However, in order to identify the value of knowledge, the investigation had to relate the asset to the context, and assess the extent to which a set of identifiable factors have bearing on knowledge application and outcomes.

The survey method would have been suitable to current research if there were more organisations in the sample and if it was clear what data to collect. However, given the epistemological underpinnings of the research, the richness of data stemming from a qualitative case study approach offered more flexibility. A hybrid method of data collection, nevertheless, could have also served the research aims well. For example, supplementing case studies with questionnaires, or direct participation in meetings on each decision, that framed the context of investigation. But, in each instance, fairly unlimited access to research sites would have been required that was not possible with this research.

The limited access to primary data sources implies that accounts can only ever provide a partial picture of the reality. This should not be seen as an obstacle, however, given that knowledge is incomplete by nature, and regardless of the perspective is adopted. It was important to bear the limitation in mind as the data were analysed and not to be discouraged that no insights can be gained to advance the theme. The case studies offered access to managers' experiences over time, not just opinions. The cognitive aspects of decision making were not analysed in this research, but application of knowledge as a resource which provides services. This could not be captured well using experimental design or survey research, so a qualitative case study approach was the most suitable.

If the topic was not as sensitive as strategic decision making, an ethnographic approach to study could have provided useful insight. It was unlikely, however, that any senior manager would allow a doctoral researcher to attend key meetings and discussions that address confidential matters, such as the details of a new product launch which has not yet gone live to market. But, an upside to case studies is that each offered a view of the same decision from multiple viewpoints. As a result, the approach provided a more holistic, in-depth picture of the decision cases. The managers who took part in the decision making each had a limited view of the process, so their experiences were different. This had implications for how they used their knowledge, so some novel insights emerged from the analysis.

For the purpose of this research, the study focused on typical cases of decisions where managers had a good view of the entire decision, from the beginning of formulation to implementation of each decision. The cases were relatively recent which allowed senior managers to recall the details to some degree of accuracy. In the past, cases focused either on the decision to the go-ahead point, or the studies built on previous research by investigating implementation (see e.g., Miller et al 2008). Or, they just examined aspects of

the implementation phase (see for example, the empirical studies of Nutt). Current research adopted a strategy process perspective which meant combining both phases as intertwining over time (see e.g., Pettigrew 1992a, 1997, 2003). It also took the view that they do not happen in strict sequence, i.e. the implementation plans and behavioural commitments start before the decision is approved by the executive team.

The chosen research methods provided a basis to compare the accounts and identify what is distinct and common across the cases studied. In terms of the unit of analysis, the study focused on the senior managers within decision cases. Each case was based on multiple sources of information to offer a more objective view of the case which was reconstructed from those sources. Again, this was in line with empirical work conducted in the past, and in particular, the recent work done on decision implementation by Hickson et al. (2003). These recent studies reveal that senior managers' experience is important to successful outcomes as strategic decisions are processed through an organisation. It is not the most important factor, but it is a component part of making implementation a success.

3.2. Research Methods

The research strategy that guides the collection and analysis of empirical data can either be qualitative, or quantitative, as far as any selected research design is concerned, including case studies. The preoccupations of researchers in each case are quite different and influence how the data are collected and analysed. It is important to outline and reflect upon these before proceeding with the analysis of all the empirical work. This section therefore provides an overview of the main sampling, collection and available analytical techniques. It then discusses the chosen methods and suitability to current research.

3.2.1. Data Sampling

There are different types of sampling methods that can be used to select the decision cases and individuals that are to be studied. These include random, systematic, stratified, and convenience samples from a given population (Bryman and Bell 2007). With a random sample, each unit has an equal chance of being selected, whereas with a systematic sample it is a question of choosing every nth unit on the list. Stratified random sample is more focused. The units are selected from an area that is most relevant to the study.

Convenience sampling is concerned with selecting units from a population that is most available due to accessibility. Snowball sampling is about using existing contacts to establish contacts with others in the industry. Quota sampling is concerned with producing a sample that reflects a population in terms of relative number of people and their characteristics. It puts them into categories and then collects data from each. Unlike stratified, this type of sample is not random, since the final selection is left up to the researcher.

A level of consistency has to be present in the sample selection, but there are issues with some not being representative of the population, which limits generalisation. The researcher may introduce their own biased judgements and perceptions into selecting people to approach and include in the final sample. Also, each raises questions about how many cases or respondents, to include in the study. Finally, for this type of research the decision what to include and how many was heavily influenced by three important factors: accessibility, time and costs, all of which had to be taken into consideration.

In the end, what the researcher hopes to achieve at the beginning of the research process, or any project in fact, and what one ends up achieving are often not one of the same. The issue of accessibility can weigh heavily on the entire research process and often, change its direction from the original intention to what is realised in practice. This does not mean one should be discouraged from proceeding with existing efforts, but the challenges just call for a lot more flexibility along the project timeline in order to take it to completion.

3.2.2. Data Collection

There are a number of qualitative or quantitative methods can be considered to collect the data on how knowledge is applied in decision making. It depends on whether one wants to measure, identify causal mechanisms and generalise the findings beyond the context that is being used for research; or if one wants to understand situations from the point of view of those being studied, with emphasis on the context and processes through which some events unfold over time (Bryman and Bell 2007). Not all methods are therefore suitable in all situations, and each has its strengths and weaknesses in terms of outcomes.

Questionnaires are a popular and widely used method of data collection. They are cheap to administer. They allow a large sample of data to be collected relatively quickly and do not require the presence of the researcher. The key thing is to design the questionnaire in a way that avoids confusion on part of the respondents. The form may consist of both open

and closed questions, depending on the topic. The aim should also be to minimise non-response rate, although this is quite difficult to achieve in practice. One advantage they provide over other techniques is that they reduce the interviewer variability which is present in most other types of interviews. But the downside is that it is not possible to clarify, prompt or probe, so there may be missing data as a result.

A good alternative to administering questionnaires is conducting interviews. There are three types of interviews and all can be done in person, via telephone or videoconference. First of all, there is the *structured interview*, a closed question format which is more like a questionnaire. This tends to be used in social survey research as it allows the interviewer to ask specific questions with a limited choice of answers. This limits variability. By getting a fixed range of answers the interviewer can aggregated them and easily process for data analysis. It is the interview method used in quantitative research which seeks to measure and examine relationships between many variables that are decided upon before the interview. It is quite different to two other important interview formats.

The *semi-structured and unstructured interviews* are used extensively in qualitative research. They are either employed on their own or in combinations with other methods. There is a series of questions which are more open-ended, general in their frame of reference, and less standardised compared to the structured format. The emphasis is more on the informant's point of view than on the concerns of the researcher, which is the case with structured interviews. Those being interviewed are encouraged to talk on their own terms as it can offer insight into their point of view and does not limit their accounts of situations.

Semi-structured interviews allow the interviewer to probe and ask further questions that may not be a part of the interview schedule. They can gain clarification during the interview on key points, change the order of original questioning or leave some out. For unstructured format in particular, the questions are just a guide of topic or issues to be addressed, but the interview itself is kept fairly informal and can vary greatly from one to the next. In both cases, a key decision needs to be made on the type of questions to ask in order to gain insights into the topic that will help to answer the research questions.

The flexibility inherent in each means that during the interview the emphasis may be placed on different issues or aspects of the situation from what was the original intention. There may be things interviewees will bring to light that may adjust the focus of the research

questions, or things that may be discussed in interviews with other informants involved in the same case. In both cases, the emphasis is on how the interviewee frames and recalls the events, what they place importance on when explaining what and how it happened, which may be highly variable between respondents if talking about the same events.

In terms of interview conduct there are some issues to consider, such as understanding own interview schedules and having examples ready if a need to clarify some questions arises. There is also the need to introduce the research at the beginning of each interview, providing clear instructions, building rapport, asking questions in the right order and recording answers for purpose of transcription. In each interview, the interviewer may also need to probe or prompt the respondent by suggesting an answer to a question that may be difficult to answer. On the whole, it is important to avoid asking questions that are too broad, that are leading, or questions that ask about more than one thing at a time. It is also a good idea to avoid any theoretical terms that the practitioners may not understand.

Focus groups is a type of interview where a group is given questions on an issue or topic to discuss in depth, and one that is relevant to them and of interest to the researcher. This method is frequently used in market research, to test new products or corporate communications, for example. The focus is not just on the issue, but also on the interaction between participants and how they discuss the issue. It seeks to understand how people respond to each other and build up a view of an issue or subject under study. It requires an experienced moderator to guide the participants through the discussion about their experiences, define the problem and work through it to find solutions together.

The advantage of using focus groups is that they allow the research to understand why people feel the way they do or have a view, instead of just giving reasons for it. The participants' views are also likely to be challenged, particularly if there is inconsistency in what is being said, which may not be the case in the one-to-one interview situations. It helps the researcher to understand how participants make sense of an issue or a situation and construct meaning around it at collective level. The focus is on group processes through which that meaning is constructed, rather than their mere outcomes.

Observational methods can be structured or unstructured. The structured format involves observing behaviour directly and looking for very specific things to record and analyse. It is systematic and endeavours to gain insights into what participants do. Each one is observed

using the same rules and the data are collected in a questionnaire format about different aspects of behaviour that can be treated as variables. The researcher does not participate in the process. The issues that arise from this method are for example, use of inappropriate frameworks in the setting, lack of understanding of intentions behind the behaviour and generation of lots of data that have to put together. It makes it difficult to see the bigger picture and it ignores the wider context in which behaviour takes place.

Ethnography and participant observation are less structured, but more common in management research. Each involves immersion in the context or situations being investigated and it tends to require a lot of time to collect all the data. This could involve attending meetings or following managers around. It involves observing behaviour, listening or being involved in conversations, and if necessary asking questions in the process. The aim is to record as much detail as possible, in order to uncover meaning participants attribute to the environment and their behaviour within it. From that, the researcher can then create narrative accounts of their behaviour.

This method is not normally applied on its own, in basing findings solely on observation, but it could be used with other data collection methods and sources to build a bigger picture. The key issue with ethnography is access to a research site and organisations allowing the researcher to come in and start collecting data by direct observation. A lot of problems studied are sensitive by nature. It is also not perhaps the most practical data collection method as it requires ongoing access to key informants and use of their limited time.

Document data collection usually supplements other methods, such as interviews and ethnography. Data can be found in annual reports, press releases, internal reports, letters or emails. These are not produced specifically for the purpose of research, but are useful, since they can provide information that could help form a clearer picture of an issue being investigated, or help to build a timeline of events over time. In each project, a lot of documentation is produced, but it is not necessary to have access to all of it. Rather, it is having an awareness of the types of documents that were used that could be helpful in the analysis of other data sources. The selection of documents depends on access, what we are trying to find out in each case and how documents could help in the process.

When selecting documents it is important to ensure that the sources are credible. Each should provide a representative view of the organisation, not the individual producing the

document. There may be conflicting interpretations of the same event, so it involves making a decision on what to use for the purpose of research. As there could be difficulties associated with gaining access to organisational documents, it may be the case of simply relying on the publicly available ones. To consider would be the time allocated to analysis, since the more time is available, the more can be analysed. So there would be decisions related to choosing those sources that support the primary method of data collection.

3.2.3. Data Analysis

To analyse the data, a number of techniques can be applied. It depends on whether it is qualitative or quantitative data that need to be analysed (Bryman and Bell 2007). Data collected via questionnaires and structured interviews can normally be processed quite quickly and relationships between variables analysed using statistical methods, such as correlation and regression analysis. Quantitative research looks to identify levels of significance and the extent of positive or negative relationships between variables. Computer packages such as SPPS can assists this type of analysis. Qualitative data analysis methods are more complex, but have the benefit of providing more insights.

Content analysis is an approach which involves looking at documents and which seeks to quantify content in terms of categories in a systematic and replicable manner. It is useful when analysing content of communications in various written or printed forms. These may include organisational documents, or newspaper articles on a particular topic. The decision needs to be made on the unit of analysis, and to assist with coding, a coding schedule and a manual are produced in advance. It is a transparent and unobtrusive method, but the documents need to be good in terms of quality.

Discourse and conversational analysis are used to analyse the use of language in situations or cases under investigation. Conversation analysis focuses exclusively on talk in its naturally setting. The whole conversation is transcribed and the researcher then tries to identify underlying patterns in the structure of the conversation. Discourse analysis on the other hand, extends its use to other forms of communication, such as company mission statements and emails. It seeks to unravel how discourse is used to shape our world, and how what we say and how we say it influences others' perceptions of it.

Cognitive mapping is used by researchers who work with managers to analyse or resolve a particular organisation issue. It is complementary to action research, where they work

together to diagnose a problem and find a solution based on that diagnosis. Both are iterative processes and cognitive mapping is used to understand individual perspectives and how problems can be understood in different ways. Causal maps are used to reflect upon thinking about a problem that enables managers to take appropriate steps towards a solution. The mapping process involves managers identifying factors which affect a goal, generating concepts associated with it, finding out why they are important and how they are related. This leads to understanding individuals' construct system at a given time, helps them form a coherent view of the issue and find the most appropriate course of action.

Grounded theory is a general strategy to qualitative data analysis which seeks to derive theory from data that is gathered and analysed through the research process. Its aim is the development of theory through an iterative process of data analysis. The key outputs are concepts and categories that stem from the research process. During the analytical process, it relies on theoretical saturation and constant comparison between concepts and categories in relation to their indicators. It requires disregard for existing theories or concepts until later stages of the analysis, which may not be feasible in reality. However, it is desirable to build upon existing conceptualisations and the work of others.

Comparative analysis is used frequently in case study research. It is about comparing and contrasting two or more cases, and building cross-case conclusions to support theoretical discussions. The aim of a comparative analysis is to shed light on the similarities and differences between cases. There are a number of techniques that could be used such as pattern matching, explanation building and time series analysis (Yin 2003). *Pattern matching* compares an empirical pattern with a predicted one. It may not be quantitative and therefore, a lot of it relies on the interpretation of the researcher.

Explanation building is a form of pattern matching. It aims to build an explanation of the case. This iterative process begins with a theoretical statement or proposition which is then refined, before repeating the process. *Time series* is used in experimental analysis and it focuses on relationships between dependent and independent variables. To support the analysis of data using pattern matching or explanation building, computer package such as N-VIVO can be used, as an alternative to a manual coding and matching process.

Next, we outline the data collection method and analytical techniques that were selected as the most suitable given the research questions. In the opening section of this chapter, key

points on the research methods were highlighted in relation to the topic under investigation, which is knowledge as a strategic asset. A more in-depth elaboration of the chosen method will be supported by an explanation of the approach to data coding. Validity, reliability and limitation of the method will be outlined at the end. The research aims in terms of outputs also had to be taken into consideration in the process, as different methods can shed light on different aspects of each decision.

3.3. Data Collection

To gather data, suitable research sites had to be found. The selection came down to knowing senior executives personally on a single site, as there was surprisingly no response from suitable organisations; either via direct contact by the researcher or by using University mailing lists and alumni network. The selection of key informants in the nominated organisation was based on criteria given to the main project champion by the researcher. The criteria were based on each informant being a senior manager who played a key role in the decision making process that was under investigation.

The decision process was divided into formulation and implementation phases. For each phase of the process, there had to be multiple informants who would nominate other senior managers for an interview, if they thought others could provide valuable insights about the case. The use of case studies has therefore allowed us to interview only those who were the most relevant informants relative to the research questions. This is a well-used data collection method used extensively by many scholars of decision making (e.g. Mintzberg et al .1976; Nutt 1989; see e.g., the Bradford Studies and Miller et al. 2004).

Semi-structured interviews were used as the main and most appropriate method of data collection. If the senior executive took part in both phases of the process, they were interviewed twice, otherwise only once. The aim was to gain a view of the entire decision process, even though no view would ever be entirely accessible to an external researcher. In previous empirical studies most took a sequential view of decision making, the analysis stops at a choice stage and focuses on the process characteristics. In this research, allowing informants to talk about their contribution (and views) over a period of time was necessary to capture some of the dynamic between knowledge and decision making.

The benefit of using this type of interview is that it is flexible since it allows informants to put themselves into the data collection process, rather than passively responding to

categories which may not give a complete view of the process. There is always 'depends' the richness of which cannot be captured by questionnaires. The studies in the past revealed, for example, that decision processes are both rational and political, but not in all decision cases. It depends on the type of organisations, and the fact that some are less political than others. How senior managers are likely to apply knowledge will vary in degree and intensity between cases and even organisations.

The richness of data that needed to be captured highlights why quantitative methods, such as questionnaires, were not suitable to gather data in the current research. They are easy to distribute, but provide a fairly static picture of human processes. The questions are constraining and they only focus on a handful of pre-defined variables, which oversimplifies the complexity of decision making processes. By maintaining focus on the relationships between variables, it ignores the context in which knowledge is applied and in which decision making takes place. This is particularly true in cases where researchers are not familiar with the organisation being studied and may even exclude important variables.

The semi-structured format was used to gain multiple views on the same case. Asking open-ended questions has allowed each informant to tell a story from their own perspective. This was invaluable as it illustrated the complexity of decision making processes. As it was highlighted in an earlier section, adopting a more ethnographic approach to study was not realistic for this type of project. But that in itself was not an issue, as it was not necessary for purposes of current research. Instead, adopting a more reflective approach on own contribution allowed the informants to include views, for example, on issues which obstructed the process at a point in time. Also, ethnography would have been a time consuming exercise, as SDM extends over a period of months or years, in part, depending on the type of organisation and the type of strategic decision.

To support the analysis of interview data, access was gained to some historical company reports that offered a good view of the context in which decisions are made and implemented. Press releases confirmed some of the stories told in the interviews which were also a form of validation mechanism. Some case documentation was also collected which helped to form a clearer picture of the cases, in particular in terms of the sequence of key milestones and team level outputs, such as proposals and completion of key tasks. These are not easily recalled during interviews and not easy to track down in any case, so having documents produced at the time of the project has been helpful in that respect.

Data were collected on decisions which were implemented relatively recently, and that decision makers were able to recollect easily. Interviews were conducted with informants who were most knowledgeable about the process and the decision in question. The actual interview guide that was used in all interviews was split into four sections (see Appendix 2). The first aimed to contextualise the decision case; the second, to find out how the decision was reached; and the third, to find out how the decision was implemented. Finally, the interviews aimed to find out about some outcomes and reflections on the process that were used in the analysis to shed some light on the process, in retrospect.

With the managers who were most involved in the process, the first interview covered the formulation of the case, and the second the implementation of the decision. A similar interview structure was used in each case. There was not a lot of variation in terms of how each question was asked to ensure a consistency of response, or as much as it was possible with the collection of qualitative data that relies on recall. The sequence of questions, inclusion and exclusion of questions, and follow up questions varied, as they were highly dependent on what was said at the time, which cannot be predicted in advance.

The interview questions were based on the research questions. There were clear reasons for structuring the interview in the way it was conducted with every informant. Some of the key things that it aimed to find out were, how understanding of the case developed through to implementation; what new insights were gained during the decision making process; what did each senior manager contribute; what issues or difficulties were encountered during the decision making process; and how others' involvement influenced what each manager was contributing, which then took into consideration the context.

The responses to questions helped to identify what knowledge was used, how it was used and what impacted the use of knowledge during the decision process. The responses helped to understand what happened during the process and what managers contributed to each decision episode to implement the decision. Each interview session aimed to find out not only what managers contributed to decision making, but also about the shape of the decision. It is the shape which to some extent impacted their use of knowledge.

There were different types of knowledge that senior managers were likely to draw upon during decision making and these may have been used in different ways, so finding out some details about the process and knowledge application in it, were equally important. The

responses to questions on outcomes such as the consequences of decision making, desired changes and lessons for future decision making, helped to shed some light on some of the earlier points made in the two key phases of the decision process.

Some questions informants were not able to answer, or early responses indicated that there was not much insight to be derived from the responses, or that some emergent issues deserve attention. If that was the case, then some questions were added, or rephrased, in a way to get more focused responses. At the same time, the interview structure was kept the same as were other elements of the interview process. These included introduction to the research, probing and allowing each informant to give their perspective and tell the researcher about their experience during the decision case.

3.3.1. Ethical Issues

Current research, as all other research, requires commitment to integrity and openness with participants, acceptance of intellectual honesty, and personal responsibility. It had to consider the ethical issues of informed consent and privacy as data were collected and reported. This involved asking permission to record conversations, to transcribe them, and to access any other data relevant to current research. Appropriate behaviour on client site, in accordance with client's ethical standards and written policies, such as those concerned with existing reporting structures, was of utmost importance. At all times, current research abided by the University of Warwick's research ethics policy, which included promoting good research practice and avoiding unnecessary repetition of existing knowledge.

A formal approval of access to information sources was obtained, by agreeing who to interview and what information to disclose. To deal with any potential informed consent issues, all aspects of the project and process that might influence willingness to participate were explained in advance. Questions were answered, such as those concerned with research objectives, methodology, potential inconveniences, or benefits, and how data are to be used and reported in current research. At times, however, it was necessary to withhold information from participants to prevent biased results, such as findings from other interviews. This was explained to each informant prior to an interview taking place.

Maintaining confidentiality and anonymity of sources, written records, and interview accounts meant ensuring that comments could not be traced back to individuals. If identity was to be revealed, it must be explained to whom the information was to be supplied and

its purpose, for example, a senior academic advisor. For each decision, we only revealed the matter and type of organisation, whilst assigning informants with pseudonyms in transcriptions and reporting. It was also important to ensure that the reported data are in fact what has been collected, and that we were not falsifying it to confirm expected, as oppose to actual, outcomes. As decision stories were collated into case studies, each needed to be checked by informants for factual clarity before publication.

3.4. Data Analysis

After the interviews, each individual account was transcribed, cross-compared with other responses from the case, and followed up with clarification questions to fill any gaps in the accounts. The interview transcripts were sent over to the informants (separately), with some additional questions. At the end of each round of interviews, it was decided what case documentation would be useful, and permission to access gained from the key contacts in the client organisation. The transcripts and case documents were used as a basis for all the analysis, which was focused on how knowledge was used by senior managers during the two decision cases within the client organisation. The aim was to link their contribution (or action) to decision episodes which were identified from the cases.

The cases were reconstructed using the interview data and case documentation. It was done using a logical template which structured the case in chronological order of events dividing each into background, formulation and implementation phases, and outlining main outcomes at the end. These mirrored the accounts provided by the key informants. The analysis of the case study data is said to be the most difficult, as it is the least codified (Eisenhardt 1989b). However, in the case of this research, it offered the flexibility that was needed to investigate the application of knowledge during a key organisational process.

The cases were cross-compared by examining similarities and differences in terms of knowledge use, firstly between managers in the same case and secondly, for the same manager across cases. The aggregate findings were used to conceptualise the use of knowledge in decision making. In doing so, we looked to identify factors which influence the application of knowledge. To analyse the interview data for each decision case, the study relied on pattern matching and cross-case synthesis (Yin 2003).

The aim was to identify what knowledge was brought into the process and relating it to managerial activity within a decision episode. Categories of knowledge types emerged from

the pattern matching process, and by defining each one, it was possible to relate the combination of knowledge types to work done in an episode. How did the emergence of new information and insight influence its application? Were new insights applied or ignored? Those were some of the questions that guided coding and analysis. Both processes were conducted in a step-wise fashion. It took into account the impact of insights and how existing knowledge is applied (and renewed), given these insights.

3.4.1. Data Coding Protocol

Coding interview transcript data is an iterative process and there are a number of ways suggested by Yin (2003) to analyse case study data. But, before starting the coding process, it was important to assign rules to how the answers will be put into categories of knowledge. This was done before analysing how categories are related to each other, and the extent of that relatedness. A decision had to be made on which categories represented what construct within and between cases, i.e. knowledge (types), its use and frames within which to analyse its use (episodes). There was also a coding frame to deal with issue of variability when deciding which category represents what in each decision case.

Coding was based on pattern matching in terms of knowledge used (and created). The study tried to match this to each episode in the decision making process. The aim was to interpret the data and to build concepts and categories that can be brought together into a coherent framework. This framework was used to link the empirical findings to the research questions. The coding looked for things like factors that prompted the need for the decision; knowledge brought into decision making; information/new insights that emerged during the process; an indication that insights made a difference to managers' involvement in the case or whether it was applied at decision level.

CODING KNOWLEDGE

- Individual knowledge
    - Functional (e.g. marketing, finance, technology, publishing)
    - Managerial (e.g. team, area, product or project management)
    - Strategic (e.g. functional or corporate business development)
    - Experience (e.g. general familiarity with the organisation)

- Contextual knowledge
    - Cultural (e.g. how things work, practices. procedures)
    - Power relations/levers (e.g. authority, influence. approval)
    - Group dynamics (e.g. relationships, alliances, teamwork)
    - Project (e.g. plan, tasks, objectives, structure, timelines)

- Third party knowledge
    - Internal - informal (e.g. functional experts, committees, boards)
    - Internal - formal (e.g. functional experts, committees, boards)
    - External - informal (e.g. friends, family members, industry contacts)
    - External - formal (e.g. suppliers, customers, competitors, regulators)

Table 3.1: Knowledge Codes in Decision Making

To identify a category, there had to be similar conditions that give rise to it. The context in which each category arises is the decision making process. The actions that stem from it were the construction of decision episodes, with the consequences being the actual decision episode or part that is to be implemented. A code was a label for an empirical concept that is an indicator of knowledge use in decision making, or a factor which is acting upon the relationship between knowledge (the resource) and decision making (the process). The episodes, that were not hard to identify, provided solid ground to assess contribution.

CODING STEPS

STEP 1: IDENTIFY KNOWLEDGE STOCK
- ACTION IN AN EPISODE

STEP 2: LINK STOCK TO OTHER SMS
- SM1 STOCK meets SM2 STOCK
- SM1 STOCK meets I/E INSIGHT
- SM1 STOCK input into EPISODE

STEP 3: IDENTIFY NEW INFORMATION
- INSIGHT 1: FROM OTHER SMS, I/E
- INSIGHT 2: FROM OWN STOCK USE

STEP 4: INPUT INTO EPISODE
- Same or different?
- Neither / not known
- Discussion/meetings

STEP 5: KNOWLEDGE CREATION
- Input at what level?
- Output at what level?

Key:
SM = SENIOR MANAGER
I/E = INTERNAL/ EXTERNAL

Table 3.2: Coding Steps in Each Decision Case

The episodes were used to analyse similarities and differences between decision cases and decide, for example, if the topic matters, or not, to that contribution. Table 3.1 outlines the different types of knowledge that were identified. In transfer, each type of knowledge is information. It therefore means that new insights cannot be functional, managerial or

strategic as those are independent stocks of knowledge which can be updated. Each can also contribute to generation of new insights as they are applied, either through own application or mixed with contextual and third party knowledge. The non-independent knowledge types are also information in transfer between stocks.

The analysis was able to identified knowledge stock each manager brought into the process, from the responses and actions taken in a decision episode. This was linked to other stock or insights gained during that episode. The insights that were gained were either from application of own stock, or participation in the process, in which case insights emerged from other sources. These we were able to link to application in the same or different episode, to see if any new knowledge was created during the process. Not all insights are used at the point at which they emerge, and quite a few insights were only identified in retrospect. Table 3.2 outlines the coding steps that were followed at the analysis stage.

During the process, there were consultations with others who were not directly involved in the process. This included insights from experts whose expertise helped those driving the process forward. These were also brought into decision making, but it was not own stock per se. Therefore, this needed a separate code that was to relate this 'type' to managers' own stock and those of others who took part in the process. The extent to which it impacted decision making depended on how managers decide to use own knowledge. This will be addressed in later chapters, but before we move on, a few words on analytical techniques that were used to analyse the data and draw conclusions from it.

3.4.2. Analytical Techniques

Once the data were coded they were analysed in detail by comparing and contrasting instances of knowledge use in and between decision cases. This research did not analyse the meetings and discussions used to make progress towards a decision; it did not attempt to go to that level of detail and it was not necessary given the research topic. Rather, it used the formulation of a specific decision case as a starting point in the process, and a pathway to implementation. What was analysed was the use of knowledge to formulate the case and the steps were then repeated for the rest of the decision making process.

We were comparing the contributions of managers in the same case and those who were involved in both cases. For example, do all directors bring in and utilise similar types of knowledge into the process or are they completely dissimilar? To answer this question, the

analysis was initially looking at what knowledge was brought into the process. The decision episodes were used to illustrate how knowledge was then applied in each one. From the cross-comparison between cases, we were able to derive categories (or themes) and sub-themes which indicate how knowledge is used during the decision making process.

Decision episodes were not identical across cases. But, there were different parts of the decision that had to be made (or built) and it was possible to identify what knowledge or a combination of knowledge was applied in those parts. Gaining approval, for example, is a process, not a moment. Furthermore, during the decision process insights are gained which can relate to each of the knowledge types that were identified at the coding stage. However, the use of any knowledge 'type' may not result in the same type of insight. In this research, some were applied in the same episode and some were applied across episodes, so that was interesting to analyse in terms of changes in contribution.

3.4.3. Validity and Reliability

It is more difficult to establish the extent of validity and reliability of qualitative than quantitative research. The latter is concerned with measurement of specific variables, which make it more robust in terms of validity and reliability. But the richness of qualitative data allows us delve deeper into issues, and gain insights which cannot be derived from a set of numbers. The issues to consider are the extent to which the research can be replicated; whether two people coding the same data would be coding it in the same way; the extent to which findings can be generalised to a wider population; and ensuring that the researcher is developing a good match between concepts and the theoretical ideas they develop.

There are alternative criteria used for qualitative research which are concerned with assessing the credibility of research, by relying on multiple accounts in each study. The importance of context raises the question of transferability of findings to other contexts or time periods. When it comes to dependability, one must ensure that all steps of the research process are recorded and accessible for future use. Lastly, the researcher should not allow personal values or theoretical inclinations to sway research in one direction or another. It is not possible to attain complete objectivity in any business research, but it is possible to minimise the bias, particularly when it comes to qualitative research.

The validity and reliability of data was assessed according to Yin (2003) criteria that are tailored to case study research. Construct validity was achieved by gaining access to

multiple informants in each case. Each provided a view on what happened during decision making, from their perspective. This was used to compare views on the same issue, for example, and understanding how the whole group resolved it. The interview transcripts and case reports were fed back to informants, to review and check for factual clarity, and in doing so, minimise the interpretive bias on part of the researcher.

In terms of data collection, all informants were asked similar questions and the transcripts were sent to them as a factual validity check. Further clarification questions were used to validate answers that were already given in the interviews. In terms of internal validity, as we were inferring patterns from data derived from iterative analysis of multiple cases, we had to ensure that there was a good match between theoretical concepts and empirical findings. The interview data were iteratively analysed to ensure internal validity, but supporting case documentation was also used to validate some of the responses.

To ensure external validity as far as possible, it was necessary to use comparable cases of strategic decisions. The cases used in current research are comparable on a number of grounds (which emerged as an insight from the analysis stage) and can form a sound basis for some future generalisations. There is nothing different or unusual about the cases. They deal with decisions which are not in response to crises and are in tune with existing decision making practices. It means that other organisations that deal with similar or same topics would find insights useful in their own context.

Finally, in terms of reliability, it was important to minimise bias. In addition to following the same interview procedure in each case, analytical procedures were documented that will ensure that other researchers can arrive at similar findings if they were to repeat the process in another organisation. Case studies make this challenging, so developing a case study protocol and documenting procedures along the way in terms of data collection, and the analysis of knowledge types was done to support the validity of research findings.

3.5. Limitations of Method

Qualitative research is criticised for being too subjective and making it difficult to replicate the generation of findings. There are also problems of generalisation as the findings tend to be tied to context that quantitative research largely ignores. But, no research is perfect, and it is not necessary for it to generate insights that will find useful practical applications. As it was discussed previously, all types have their own strengths and weaknesses, and it is important to choose the most appropriate one. Some questions quantitative research will not be able to answer, and the same is true of qualitative research methods.

In terms of data collection, the views generated on what happened during the decision making process, were dependent on questions that were asked, and how the informants chose to respond. The time spent with each informant was limited. Each one only provided a perspective on the process. As we did not have direct access to meetings or discussions, the sum of perspectives offered a single view of the process. However, given what was analysed, more detail was not necessary in this instance. Identifying how knowledge was used to formulate and implement a decision emerged from the interviews. The data were rich given the topic, and that was sufficient for the current research.

The research relies on a small number of decision cases and this is a major limitation, perhaps. In part, this came down to accessibility to suitable research sites and information sources, and partly down to the limited time available. The issues with access came in a number of forms that had bearing on the sampling of decision cases. Firstly, we had to gain access to a suitable organisation large enough to provide rich enough perspectives on the process. This depended upon an organisation agreeing to grant access to their decision cases. Secondly, we had to gain access to suitable decision cases. This was up to the project champion who was also responsible for arranging access to information sources.

Thirdly, we had to gain access to all the key informants in each case. This was partly down to the project champion, and partly down to us. Once we learnt from the initial informants about their role, they suggested others who would be useful to interview which also influenced the final samples. The reality of doing this type of research meant that we had to be a lot more flexible than it could have been envisaged at first, going into the process with data requirements. The outcomes implied that we had to realistically accept what we get in the end and then supplement analysis with existing work in the field.

There are limitations with regards to the interpretive bias of the researcher. The influence of bias was minimised, which is the best we can do in any business research context. With quantitative research, what we leave and take out precedes the data collection and analysis processes, whereas with qualitative research those types of decisions follow it. So, however we look at it, all research has some limitations. For the analysis, it was important that there was logic and consistency in the matching process between theoretical concepts and categories that are generated and the empirical data that were used as a basis to generate them. The next chapter presents the empirical evidence.

4. CASE EVIDENCE

4.1. Introduction

This research has used strategic decision making as a context to study the application of knowledge. The two decision cases presented in this chapter are NPD - a new product development decision - and NLO - a new regional office decision - were drawn from one global organisation. There is a few years' gap between the cases, which means that each took place under a different set of internal and external conditions, but with a relatively unchanged senior management team leading the process. The interview and the analytical process used to collect the bulk of data were divided into four broad phases:

- ➤ *Background* focused on contextual factors which set the scene for each strategic decision case and led to the development of a business proposal;
- ➤ *Formulation* focused on the details surrounding the business proposal and the approval of each decision. During this phase, new Insights were gained from the research and assessment which informed the work in the implementation phase;
- ➤ *Implementation* focused on the project plan, and the work that followed decision approval. Further insights emerged in different parts of the decision and the identification of these was based on the involvement of key managers;
- ➤ *Outcomes* of the decision making process highlighted the main consequences of the work done on each decision by the senior management team;

The organisation is presented first, and then the cases which were divided into identifiable decision episodes. Given the complexity of strategic decisions, a summary of decision episodes in each case will be presented to the reader at the end of the chapter. This research does not examine process associations to either decision or firm performance. Instead, it makes an assumption that each decision has no end point, unless it fails. The outcomes that are relevant to this research come in the shape of impacts on wider organisational priorities and consequences, such as the formation of a new product development team and lessons for future decision making.

4.2. The Organisation: Pub Com

Pub Com is a privately owned organisation founded over 40 years ago in the US and focused on disseminating educational information. It is a publisher of journals, books, and electronic media for academic, educational and professional markets. Its mission is to inform and educate a global community of scholars, practitioners, researchers and students in a wide range of fields.

From a small office run by two people on the East Coast of the United States, to establishing a base in California and expanding globally to over a thousand employees, Pub Com is a success story. It has focused on organic growth and acquisitions, maintaining independence to date, and growing into a global publishing business. It started many journals from scratch, some were scholarly association journals and some acquired from academics, publishing social sciences books, reference books and handbooks in the field of communication, monographs and books that sold at graduate level.

The most significant growth in business took place during the 1980s and 1990s. It included expansion into the fields of psychology, sociology, communication and media studies. There was also growth in the journals' list during the 1990s in building new programs. Other developments included moving journals online in late 1990s in collaboration with other UK-based publishers. Then, through transformational leadership during that period, Pub Com built a corporate culture that brought more unification across the company over the years, in particular between its main US and UK offices.

While its focus for the first 30 years remained on social sciences, the leadership team knew it needed to look beyond its existing offering. It resulted in new publications in the science, technology, medicine and engineering fields stretching out of the social sciences and creating more scope for future growth. Expansion through acquisition in 1990s of another publishing company was an important incremental addition to existing content in publishing and education which complemented and strengthened Pub Com's own offering.

In 2010, Pub Com is a global publishing company with offices in the US, the UK and Asia, and representative offices in other regions and countries around the world. Its geographical expansion has included London in the 1970s, India in the 1980s and Singapore a couple of decades later in 2006. These serve as its main bases with other representative offices across four continents, which include Middle East and Africa where there are supporting operations. There are also distribution partners in East Asia, Australia and New Zealand.

In looking to London, Pub Com's aim was to build its first international publishing affiliate and to begin with establishing its global presence; marketing and distribution for own products, not just importing from the UK. The goal was to find unmet needs for high quality, moderately priced information in social sciences. London also provided entry into the European market, and shared English as a primary language. Initially a fledgling office out of a distributor's grounds, with only 10% of Pub Com's business it grew into its own company that publishes books and journals.

In the late 1970s, growth and profitability were strong enough to explore another international venture. It was initially going to be Latin America, but few at Pub Com could handle business in any foreign language and there was also the issue of currency instability in the region. But, in India, it was a different story. They had existing relationships with Indian academics that were fully supportive and one of the MDs had already set up distribution agreement with another company in India. The country's huge population, English used heavily in both commerce and education, and growing literacy rates implied that there was a demand for Pub Com products.

India has been a successful operation since its opening with good leadership over the years and has seen the office flourish. With growth in 1990s stemming from a surge in sales of locally published titles and journals, its presence in the market has been cemented, but it still needed to address the lack of presence in the rest of the Asia Pacific (APAC) region. In 2006, the need to expand further, led to establishment of a sales and marketing office in Singapore that now distributes all of its materials. Beijing is part of the APAC affiliate and representative offices in Japan, Taiwan and Korea with more openings in due course.

➢ Value Proposition

Pub Com is a global publisher that sells academic reference, textbook and journals to individuals, libraries or consortia of libraries worldwide. It provides publications and services that authors and student need and at the same time, helping them communicate with peers and policy makers interested in innovation solutions to social science problems. The development of the business eventually helped to build the RX programme, which was seen as a way of differentiating themselves in a competitive marketplace. This was achieved by broadening the RX product line and publishing material that was cross-disciplinary, hence, bridging differences between fields.

Over the years, it started with new journals, exercise books and books by discipline. In 2010, it publishes over 60 new RX book titles a year and it is the largest RX publisher (not including journals). Scholars have helped to shape RX, but Pub Com has shaped the growing market. It made RX products accessible, concise and affordable. Today, it provides a diverse product line through handbooks, encyclopaedia and journals. The products have found application in classroom texts and material from workshop consultants. Pub Com reached to authors from across disciplines and it helped to support the development of many RX communities.

In the 1990s with the growth in internet, Pub Com also began offering online products. It put journals online and more recently reference material. Institution or consortia of institutions can buy an entire library of Pub Com's journals and individuals also have online access via subscription. In 2009, a series of senior level discussions led to the decision to develop a new online tool that pulls together RX content in a way that enables users to use the available sources for research needs. Pub Com, the best publisher of RX was not capitalised on the heritage and NPD was a way of doing something a bit more innovative.

➢ Leadership Team

The owner of Pub Com is still the chairperson of the company. Most big decisions are made by the CEO and the Executive Committee (EC) and approved by the Board of Directors (BOD). The CEO can veto a decision before it even gets to BOD for a final stamp of approval, but his approval is enough for the decision to go ahead. The BOD can influence the development of the business case and provide guidance to the CEO and the team in terms of information sources external to Pub Com and their knowledge in terms of

strategic business development. There is also a senior management team made up of a wider group of directors and associate directors including the MDs for India and APAC. The local boards and various committees can review project proposals and make recommendations to the EC, but it will not be necessary in all cases.

> ➢ Financial Highlights

Much has contributed to growth, besides expansion of journals and international programs. In addition to acquisitions, Pub Com has launched new publishing programs, with a reference program launching 100 new titles and generating over $22 million in revenue. Journal publishing in 2010 was at a good point. Worldwide, it publishes 556 journals including 410 social science journals and 146 medical journals. Pub Com US added 156 journals in a decade bringing the total to 285. Pub Com UK publishes 263 and India publishes 28 journals.

In financial terms, Pub Com has doubled its size twice between 1996 and 2005. Since 1996, it hit $100 million in sales, and five years after that it doubled it to $200 million. This was exceptional since it took 40 years to hit $100 million, so it experienced rapid growth that has been accelerated by acquisitions and international expansions. In 1996 total sales were $40 million and in 2009, the US sales of just the journals were well over $50 million, and that is roughly only half of total revenues. It is difficult, however, to achieve double digit growth at the size it is now, but its expected growth stands at minimum 5-10% each year. In 2009, which was a difficult year for all publishers, Pub Com had one of the most profitable years ever.

> ➢ Strategic Planning

At Pub Com, a strategic planning process (SPP) helps to turn ideas into projects, or decisions which are implemented either on local, regional or global level. These are then put on the annual operating plan and financial investment allocated to each of the project. SPP is ongoing and the EC meetings are then used to approve smaller decisions, or parts, that make up the big decision. As the decision is implemented, the EC meetings become review points, and the work is handed off to other people who are also very senior, and who influence decisions, but do not necessarily sit on the EC and make decisions.

By the time of January, the EC team has a kick-off meeting where it pulls together managers from across the different publishing functions, and it is a time where they look up and out, where they can see new areas they can look to develop as a business, and then over the next months they have groups going around working, coming up with various ideas, coming up with plans and so on. The planning process then properly starts in April with strategic off-site days involving global executives, directors, and some managers discussing 1-3 year objectives for each business unit and recommended product innovation ideas.

The business unit executives then summarise the outcomes from these days and present it to the EC in May with a set of proposed investments and strategies. The EC then takes these strategies and investments and decides what short-term objectives need to be accomplished in order to support them. These become critical business issues (CBIs). The EC members get together in off-site meetings, and discuss those ideas. The ones they agree to take forward, go into a more specific planning process that happens from May. The CBIs, which support strategic aims, for the next year, then become a little bit more tactical.

The CBIs are discussed at an EC meeting in July, which is Pub Com's Strategic Planning Conference, where they develop plans and convert them into a series of projects, which inform the budget for the next year. Between August and September these projects are finalised and this makes up the Pub Com's annual operating plan. The operating plan informs the budget process which takes place between October and December so they are sure to budget correct resources to accomplish the plan. The SPP is a well established mechanism and it underlies the strategic decisions which are presented next.

4.3. Decision Cases

Abbreviations are used throughout to maintain the anonymity of informants and other senior managers at Pub Com who took part in the cases studied and were mentioned by the interviewees. Any participant that did not play a key role is not presented in the analysis directly. So for example, members of committees are not be named individually but grouped into each committee, as are the external vendors and groups who were involved at some stage of the decision process. Footnotes are used to indicate which paragraphs draw directly upon data from specific interviews. Table 4.1 lists the senior managers who made a notable contribution in one or both decision cases studied in this research.

Senior Managers at Pub Com with a Key Role in NPD and/or NLO Decision Case			
CEO	Chief Executive Officer	PD	Publishing Director
CHA	Chairman	ED	Editorial Director
COO	Chief Operating Officer	TD	Exec VP Technology
MDL	Managing Director UK	LD	Library Group Director
MDA	Managing Director Asia	PDU	Publishing Director US
FD	Financial Director	JD	Journals Director Asia
SMD	Sales and Marketing Director	BD	Books Director Asia
PX	Senior Product Editor	SM	Senior Product Manager

Table 4.1: Pseudonyms - Case Presentation and Analysis

4.3.1. Case NPD – New Product

I.   Background

- Innovation in Product Development

Pub Com has been associated with RX publishing since its inception and is renowned for innovating in the area. A lot of its early publishing was devoted to dissemination not just of what people studied, but how they studied it. In 2009, Pub Com took a decision to reinvigorate its position as a publisher in the area. It dubbed 2009 as the year of RX which meant saying that they have a great legacy of being one of the foremost publishers of RX in its history and how do they refresh and renew that idea for a contemporary generation of scholars. There are people who did not necessarily know that much about Pub Com because they have been relying on the great and the good from decades before.[1]

The company decided to tackle that question in three ways. One was to do more publishing in the area to increase the number of books signed and transmitted. The second way was a PR initiative to make sure that they can get a message across about Pub Com being a good actor and a strong supporter of RX, which was done in a number of ways. The third one was to identify new RX products to innovate and to renew the position that Pub Com holds in the market. The issue was not just about what has been done in the past, but what they can do. It was that broad framing around RX and how to reinvigorate themselves that were the predominate factors that drove the NPD decision.

As the traditional areas of the business are slowing down, the company has to figure out new ways to achieve growth every year. Previously, they could rely on the growth in journals business from content acquisition, and increasing the revenues, by increasing the prices on journals. A new journals' sales force was introduced in recent years, and they have been able to drive growth by being able to penetrate the market more effectively with existing products. However, much of that work has now been done and in order to grow they need to start launching new products which will capture existing institutional revenue.[2]

In particular, it has been observed that the libraries are beginning to build a collection of e-books and they are spending more on online products. Therefore, it became clear to Pub Com that they need to be thinking about developing online products for the library market.

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[1] Interview with PD at Pub Com in London, 2 July, 2010
[2] Interview with FD at Pub Com in London, 19 July, 2010

It meant that in addition to the question of what to do with dominance in RX, there was also the question of how to drive the future of electronic publishing to meet the needs of the customers in the library market.

- Objectives

The key objective was to make sure Pub Com succeeded in creating for a new generation of scholars some way of accessing high quality RX that was fitting for the twenty first century. This was about enhancing the brand and improving brand positioning in the eyes of the customer. The objective was to underlie its pre-eminence as an RX publisher and give it a much stronger hold on the market. It was a way of achieving new revenue given the growth of the electronic channel. Pub Com wanted something that was commercially attractive, innovative and ultimately, profitable, even though it was a fairly long term investment that would take time before they begin to see a return on it.[3]

At the same time, it was equally important to try and gain a share of the growing library budget which was going to online products, particularly to e-books and databases. Pub Com wanted to make sure they were offering something for that part of the market, as the print portion of the library budget was likely to decline in a near future. If one was to observe the shifts in the market, the curve for the library budget spending on print was going down, and e-spending was going up on books. It had already happened on the journals side with the entire libraries put online in the early days of online growth.[4]

On the onset, the product was open and financial objectives were kept conservative since they knew it would be years before they see the returns on investment. The P&L was drafted, but effort was made to ensure that the revenue projections were not overly ambitious. A new research and development budget was set up to finance the investment. This budget was an incentive by the BOD to experiment more with new products and support the innovative push at Pub Com. Nothing was set in stone financially. The focus was on creating an innovative product that made the most of their strongest product.

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[3] Interview with PD at Pub Com in London, on 2 July, 2010
[4] Interview with ED at Pub Com in London, on 2 July, 2010

- Key Players

The NPD as a project had the main executive sponsor in the UK – PD - who was the driver of the idea and a member of the EC at Pub Com. PD had an equivalent in the US office – LD- who was also involved in some key decisions and managing SM, a senior product manager who was leading the project.   With the help of ED the initial concept was presented to the EC members at an annual strategic review meeting.   After the initial concept was approved, SM led the market research phase, and the internal consulting, which was required to put together the full business proposal and P&L for the product.   There was also a product assessment group, made up of senior managers representing core areas of the business to provide critique and direction during this stage of the process.

In each of the departments there were senior individuals who were assigned as contacts for queries related to different aspects of the decisions on NPD.   In the first phase of the process most members of the EC were pitched to, but did not do any work related to the decision. They advised SM, who was the project manager for NPD, and championed the importance of the decision to the business.   Later, in the implementation phase, some got more involved, whereas a few others remained on the sidelines.   A number of internal committees provided recommendations and support during the project.   The advice given fed into some important decisions which were ultimately approved by the EC.

II.   Formulation

- Coming Up with the Concept: January – July 2008

Over a period of time, there were conversations around what to do next with the RX product and how Pub Com could capitalise on its market dominance. Another conversation that was running in parallel was focused on what could be done in order to drive the electronic future of its publishing. The central question was not how to meet the needs of its existing customers, but the needs of the market that was opening up in terms new product development in the electronic world. There were discussions at various EC off-site meetings, and gradually it all culminated into the idea for an online RX product.[5]

The SPP is managed by a group of senior managers within Pub Com all of whom had a perspective on how to create the new product. However, the decision to take NPD forward fell within PD's remit as someone responsible for the strategic direction of publishing. He was responsible for bringing the idea to the group and was instrumental to making the project happen. PD was therefore not only the trigger for the initial idea, but also driving it through the EC and raising its profile at Pub Com on global level.

NPD was first formally discussed at the EC meeting in January 2008. The general idea was built on a need to create an online database which will support faculty and students to do research online. It was based on PD's good grasp of how value is created within Pub Com and an understanding of how significant the library market is to Pub Com internationally. He also drew upon his knowledge about the characteristics of RX in the process and had an insight that they had a good business-to-business actor in the marketplace with whom they could transact. In terms of RX becoming a commercially successful product, it was helpful to have an eye on that market, rather than only focus on the needs of faculty and students. So, having an understanding of the nature of the library market and RX helped him to come up with the NPD idea, as something that would be central to Pub Com.[6]

The idea was not up against other ideas. The challenge was how to frame the idea in an appropriate way to mobilise the organisation behind it. They wanted it to be an online database that would be bought by the librarian, who could be sold to through the sales teams that already talk to librarians about journals and reference products. It was as far as

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[5] Interview with FD at Pub Com in London, on 19 July, 2010
[6] Interview with PD at Pub Com in London, on 2 July, 2010

PD went with articulating the idea before handing it off to ED following an EC meeting in January 2008 to investigate what they could do with it. The product was set to make the most from RX's coverage in the area and it was her job to find out what could be done.

ED handled the development of the initial concept and was responsible for pulling together work from various areas. She hired consultants to start the research into the library market and look into how to put together this kind of concept. The concept was then sharpened by ED into something that looked like the right thing for Pub Com to pursue. She brought in insights from people across teams and advice from an external consultant from XP, who had relative experience in the area and who did some research on it. The initial work was completed between January and March. At the end of March they had off-site days, and ED presented some thoughts about how the RX tool could be created.

The concept proposal was presented at a couple of global strategic review meetings (EC), before a project manager for NPD came on board to develop it into a full proposal. The concept was presented by ED to the EC members but also at a Content Strategy Meeting (CSM) as an initial review in March 2008. The role of the CSM committee was to review the concept and to give the go ahead to the ED to pursue the work on the development of a full business proposal. CSM also gave some recommendations in terms of next steps to direct the research and to define the business case for the product. In May 2008, a CBI related to new product development was turned into a full scale project. The work on the full business proposal development was to start in July 2008.

- Case Assessment and Proposal: July 2008 – February 2009

SM, a project manager for NPD, came on board in July 2008. It was her job to take the concept, run through the market research validation and to evolve the concept into a full business proposal. Turning the initial idea into a proposal (or a product blueprint), required a lot of research and understanding of what is worth trying to achieve. How much is it about the content that is poured into the tool; how much is it about software and functionality; what is the driver of value in the eyes of different levels of customer? Is it the librarian who is parting with the money the person who needs to be impressed? Or, is it

that the faculty, who do not spend the money but can persuade the librarian to make the decision that needs to be impressed? Or, is it the student persuading the faculty?[7]

The research and assessment was split into three phases and led by SM. This framing gave the research its shape. At this stage, there was involvement from various committees and consultation with various areas of the business. Their advice fed into the work SM was doing on turning the concept into a proposal. ED, who worked with her on developing the proposal and the budgeting, was also running the books programme. LD was co-managing SM with ED and ensuring that the process she went through was robust and that she had covered all the relevant questions. LD also helped SM to gain input and support from across Pub Com to fully understand the decision they were making.

During this time there was an advisory group that was comprised of representatives from core areas of the business. The purpose of the group was to provide critique and direction to the NPD team. Within each department there was also an individual who provided feedback and responded to queries during the product proposal assessment process. The queries were tied to various areas of consultancy, such as business models, content conversion guidance, revenue recognition models and product development.

<u>Feasibility Review</u>

The feasibility review was the first step designed to thoroughly assess and define the core user and buyer audience for the product. It also helped to position the product within the market and product feasibility from the back office standpoint. The result of this stage was a business case that was delivered to the CSM committee. The main tools that were used for data collection were online surveys and interviews with various groups. For NPD, the feasibility review was divided into several phases:

➤ Phase 1 – buyers - libraries and e-books: investigating the status of the market and library preferences when purchasing e-books was supported by online surveys, interviews and focus group;

➤ Phase 2 - users – academics, teachers and students: investigating how they do research online, what methods they use for research and teaching was supported by surveys and interviews;

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[7] Interview with SM at Pub Com in London, on 19 July, 2010

> ➢ Phase 3 – buyers: getting feedback on product proposal and pricing models and understanding Pub Com's competitive positioning in the market through online surveys, library interviews, interviews with internal sales and marketing teams and conducting an online competitor review;

> ➢ Phase 4 – internal implications: investigating feedback on reactions to the product concept and results drawn from various areas of the business, all of whom were involved in developing NPD;

The aim of the first phase was to survey the libraries and to understand the extent to which they acquire e-books, or online book materials; who do they purchase from and why do they purchase from a vendor; why would they choose one vendor over another; is it due to the content; are there platform implications; are products bought because of the features of the platform, or not. There were also questions around what business models the libraries are buying with, how much are they spending and what price points are considered when they buy from different vendors. The project team did an online survey which resulted in eighty responses, and then it interviewed ten people to get a sense of the landscape.[8]

The aim of the second phase was to work with academics, students and potential end users to understand how research is performed online. If they were to put books online, what books would they want to see; how should they be displayed, what formats, what tools should there be around the content; do high level academics use dictionaries, do undergraduates use journals, and in what scenarios; when they are performing a literature review, when they are selecting a method, at what point is Pub Com's material used for teaching or for independent research, and how would they want to interact with them.

The team received a good response rate. The online survey was sent out to about two thousand five hundred people and they received over five hundred responses. They also spoke with about eleven authors, had a couple of group sessions and spoke to some graduate students. From that, they started to get a clear sense of what the product would look like and how they should evolve the product. This was based on responses from the libraries that are buying it, and on the academics, students, and teachers who are going to be using it. The final phase was focused on the internal implications to development; can they develop it; how they are going to allocate the revenue; what technology vendor can build it; do they have electronic rights and permissions to use the content online. The

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[8] Interview with SM at Pub Com in London on, 19 July, 2010

internal consultations were about finding out what the implications would be, pulling together a project plan, and understanding the costs involved in the project.[9]

Business Case Review

The research gathered during the feasibility review was written up as a business case. This document included the description of the product concept outlining key business benefits, features, content, target market, business model options and pricing points. It outlined core user and buyer audience, identifying core competitors and explaining the internal implications in terms of departments that may be impacted by product development and delivery. The initial business case was presented to a number of committees who approved it, and they included the following:

- ➤ Content Strategy Meeting (CSM) – the business case was presented as an information piece to CSM which is a group of global cross-departmental stakeholders that on the direction of each case before being passed on to other two committees;
- ➤ Online Strategy Committee (OSC) – the concept was presented to and reviewed by this committee which is responsible for adherence to branding, design and usability, data capture, discoverability, interaction between Pub Com platforms, analytics and selection of technology vendors for product development;
- ➤ Planning Committee (PC) – the internal implications were assessed by PC which is responsible for aligning back office work with business needs and reviews the project proposal; the outcome of the PC review was the direction in terms of further internal consultation for the project along with nominated support from appropriate departments;

The results of market research and recommendations of the committees that reviewed and approved the proposal fed into the next stage of the assessment process which was a more detailed product outline.

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[9] Interview with SM at Pub Com in London on, 19 July, 2010

Detailed Product Outline

Following the reviews, cases were added to a more refined outline proposal and business models and pricing were given initial consideration. A projection of costs and revenue, the resource implications and the development timeline were added. The team also used cases to outline core user groups with specific benefits they will gain from the product. The workflows expected of each user type as they move through the product were mapped out. This clarified the user needs and support for the evolution and prioritisation of the features of the product. As a result, following the market research conducted for users and buyers, the clear shape of the product and its content and features began to emerge.

The team also started to look at the issue of how they would deliver the content. Early on there was a desire to develop a product that would be a subscription model which would generate ongoing revenue for Pub Com. Initial discussions and investigation into business models started at this stage with LD also looking into it separately given her experience. LD was interested in evaluating what the market was saying, to understand the market research that they have done, and to look at technology. She spent quite a lot of time debating with colleagues the business model, because it was important to see the NPD as an online tool, not as something that could just be purchased and taken away.

As a key element of the decision on the business models, LD also had to assess whether they can sell it as a long term perpetual ownership model, or as something that has to be a subscription model. Her main concern was that they did not set a business model that could not be supported from a technical point of view. She got some good feedback from colleagues and contacts in the market that helped to validate ongoing concerns about the business model and Pub Com's technical ability to deliver it; .i.e. whether they were valid or not, or whether there was another solution out there in the market.[10]

The team received good feedback about what different business models deliver in terms of up-front versus long-term revenue. It was clear that they had to find a solution to the issue of an ownership model. The market has two different types of funding, and if they only had one business model, they would lose out on one type of funding. The feedback was directly applied into discussions about business models and the main difficulty was figuring out what model would work for the market and for Pub Com in terms of long term support.

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[10] Interview with LD at Pub Com in London, on 2 September, 2010

To propose pricing models, a competitor review was conducted, exploring models and price points for similar products.   There were discussions with Pub Com's sales and marketing teams globally, as well as the finance team to gather feedback on the feasibility of implementation.   A review of the models was conducted which were compared to the success of other online products at Pub Com.   Testing with core users was conducted to receive feedback on the models and proposed price points.   This was repeated later, during implementation, and led to pricing the product up from the original pricing points.

There were monthly meetings with a group that consisted of individuals from the Editorial, Sales and Marketing.   SM would update the group each month with the research that had been carried out, which included some of the findings and indicators in terms of the way forward.   The group would advise on the next steps or address concerns related to the business model or the product that was coming out of the research.   The meetings were global and the individuals who were involved were all very senior, for example, the Vice President of Books, the Vice President of Sales and Marketing in the US and the UK.

SM also travelled during this period, spending time in the US and the UK offices, to work through some of the issues that people were having around the project.   As there was not great enthusiasm in one of the offices about the project, the team had to sell it internally at the same time.   SM spoke to the Vice President or the Director of each of the departments, on a one-to-one basis at various points.   This was not only to explain the concept and get their buy in, but also to understand if there were concerns, and if it was necessary to do more analysis of the situation.   She also used an online strategy manager to get mock ups of sites, as it can be difficult to visualise the product without some visuals.[11]

As SM was new to Pub Com, she was unsure about the dynamics of individuals and working relationships.   It took her a long time to understand the extent to which consultation was necessary; i.e. how much people needed to be involved as opposed to just seeing a proposal. At Pub Com, as SM found, there needs to be a lot of input, from a lot of individuals, to get a momentum behind a project and drive it through. PD, LD and ED helped SM at various points during this phase by removing obstacles along the way.

The full business proposal went through several iterations and reviews before getting to the EC approval meeting in February 2009.   The P&L was drawn up with the help of FD.   The

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[11] Interview with SM at Pub Com in London, on 19 July, 2010

findings of market research and recommendations were included in the proposal. It was submitted to the PC which reviewed the back office implications and gave their approval. The CSM then performed a thorough review to approve the financial and resource investment for the development of the product. The investment was formally approved by the EC members in November 2008 as part of the annual budgeting process.

- Getting the Approval: January 2008-February 2009

<u>Senior Team Support</u>

The process of approval started at the formal EC meeting in January 2008, when it was proposed that NPD is something that Pub Com should pursue. The key for PD was to get buy in across the UK and the US offices with the help from LD, ED and SM. Before November 2008, there were several other (EC) meetings at which the decision was discussed at senior level. The CHA who owns the company and the CEO were keen on the idea for RX. It meant that by the time of the November meeting, as long as everything was making sense in terms of research and as long as all EC members were comfortable with the proposal, it was fairly easy to make the NPD decision.

But, even with the most senior buy in, one of the key voices was not persuaded of the value of the product. It was PDU who is no longer at Pub Com, but who as a member of the EC team represented an obstacle at the time. In her view, they were not qualified to decide what online tool of the future should be and that the team needed input from experienced industry experts who understand product development. There was on one to disagree with that, but they had what they had and wanted to do it. PDU gave her reluctant support in the end, and as PD's counterpart in the US, this was important. The product was going to sell in the US and the international markets, so PD needed the US office to be mobilised, and be supportive of the development and eventual launch.[12]

The fact that there was resistance within the organisation was something PD needed to tackle continuously at various points. He had to find a way to manage it even though he never understood it. This is not someone he had any power over, but his counterpart. He got the buy-in that he needed in the end through a whole sequence of having her come to the UK staff meetings and hear them discuss it; socialising with her, going for dinner and talking it through; trying to tease out the issue and indicating to her that those who had

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[12] Interview with PD at Pub Com in London, on 2 July, 2010

power over her believed in the idea. The CEO and the owner of the company were both very supportive of the idea, so her reluctance did not matter that much in the end.

Organisational Support

A more general form of resistance came from the 'not made here' problem. Pub Com has its main offices in the UK and the US and PD needed to make this a global priority for everybody. Not just passive buy in, but active involvement from a lot of people who were based overseas. He needed energetic support from many and that was very difficult to achieve, especially considering the vast geographical distance. However much one can get people to agree on things one minute, it is likely to fade away again afterwards. People do not see each other for a long time and many are working six thousand miles away.[13]

Trying to get everyone across the globe behind the project was challenging, regardless of how good the idea was and how authorised it was by PD, and the owner of the company. It was still difficult. As a result, there were lots of meetings which were not necessary in terms of execution, but in terms of symbolism and having all in the room and feeling they are involved in the project. It was not the best use of time in terms of refining the product, but was crucial in terms of everyone understanding that it has to be done, that meetings have to take place and then slowly becoming part of their DNA. At that point, it also started to create a reality which helped to move it forward.

PD felt that he could have gotten key voices locked in earlier in the US office. He knew that the CEO and the owner based in the US were supportive. He felt he should have organised for the owner to come to the company meetings and say, "I, the owner of this company, am very excited about this thing that you will all be doing". He could have used the CEO locally to do some of that work as well. But, PD did not do that and therefore had to go through a series of meetings, and people gradually getting the point. All were excited by the time of the initial launch, but it took a long time to get to that point.[14]

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[13] Interview with PD at Pub Com in London, on 2 July, 2010
[14] Interview with PD at Pub Com in London, on 2 July, 2010

- At the Point of Decision Go-Ahead: February 2009

The February 2009 meeting was the official sign-off point attended by the EC members. PD presented the document prepared by SM with the support from representatives in the Editorial, Sales and Marketing teams in the UK and individuals from other functional areas. By the time of the meeting, the proposal was approved by the OSC with a number of guidelines to observe and address in the development phase. CSM also reviewed it and provided comment. The EC reviewed and discussed the proposal with all the points taken into consideration, agreeing on the decision and giving it the green light.

In the proposal, there was an overview of the market research findings. The insights defined its target users and identified the key market for the product. It looked at the competitors and how they are using online for their products. There was a detailed product overview which included proposed content, site ontology, features and functionality. It included initial detail on product pricing and a draft marketing plan. Back office implications and four-year P&L projections were also outlined.

By the time the proposal was approved, the team understood the impact that the project was going to have on the business. However, there were also questions, or issues, that decisions had to be made about in the implementation. A lot of these were on a project or a functional team basis. In terms of business models, a question on the type of model to use was still outstanding. Sales and marketing concerns were related to how to capture sales in the US and which teams were going to sell the product. Back office questions were concerned with integrating NPD into existing systems.

The team had yet to select the technology vendor who was going to work with Pub Com on the platform development. For this, a tender process needed to take place. The main question on pricing was whether it was possible to raise the lowest price point and this was subject to library feedback. The team at this stage was happy to take all the issues and questions into the next phase of the process. They also spent a lot of time with end users, getting their feedback and understanding them. In addition to all the questions, the use of feedback was one of the major things that taken through to the implementation.

III.   Implementation

- Initial Stages

It took a couple of months to get the NPD development off the ground in April 2009. The team started talking about how the project would be structured internally, what the teams should look like and what levels of the organisation should be involved. It was also important to decide how many people should be involved and as it is a global project, talking about whether there should be both US and UK representation in every case. The team talked about having chairs for each of the project teams who were senior within the company to ensure that they had buy-in to drive the product through to launch.[15]

The set up of a project Steering Committee (SC) and smaller project teams whose decisions were to be approved by the SC was one of the first things to do. It was also decided that COO would chair the SC and a functional director would chair each project team. They also started to think more about the technology vendor, and so they put together a request-for-proposal (RFP) with a list of business requirements. TD who heads the Technology team drove that piece. The key roles were as follows:

- ➢ Product Development Manager (SM) who led the business proposal process will continue to have an overall accountability for the product during the development;
- ➢ Executive Sponsors (PD, LD) maintain accountability for product budget and delivery; act as a point of escalation for SM, providing support and guidance with the ability to lead on executive level communications that may be required at this stage;
- ➢ Steering Committee (SC) acts as a representative body of the relevant parts of the organisation. It should be informed of project progress against project plan and against the budget. They are not responsible for operational work, but project risks may be escalated to the SC for guidance and action;
- ➢ Project teams are responsible for identifying and implementing the operational tasks associated with product development. Each was given a Chair to direct the meeting and a Lead who will set the agenda, run the meeting and take minutes;

The teams provided a structure through which people were to work and communicate during the development phase. There were discussions between various senior people

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[15] Interview with SM at Pub Com in London, on 6 October, 2010

about who should be in each team. PD was the main executive sponsor, but it was also decided that there should be one who is based in the US office, and this led to appointing LD as the second executive sponsor. For the SC, it was decided that someone who was close to the back office should be the chairperson because there were so many back office implications in the product development. As a result, COO in the US was appointed.

- Project Planning

The coordination of all the work was done by SM with the support from other senior executives, when and where necessary. SM was responsible for assigning roles and setting up project teams, which were agreed on with PD and ED. Each team was responsible for a different aspect of NPD development. The teams were split as follows:

➢ Technical Development team: gathering content files, converting and scanning content, working with technology vendor throughout development, ongoing maintenance, metadata management, content management practices, Q&A planning, hardware and software selection, acquisition and support, system administration, refining use cases and functional specifications with technology vendor;

➢ Back Office team: production – collecting book content files; finance – revenue allocation and recognition, hosting fees, financial parameters to sales models, financial reporting; IT – product set up based on the business model, rules that govern product retirement and access control, system integration with third party vendor, specific date drivers for implementation; customer service – setting up order processing systems, processing customer orders, supporting customer queries, accounting and reviewing business models, product versioning;

➢ Sales, Marketing and Publicity team: sales strategy, marketing strategy including launch strategy, publicity strategy during product development, product naming and branding, managing library board, product analytics, sales rules and guidelines;

➢ Editorial team: content selection policy, content selection, providing market perspective on product development, informing authors;

➢ Legal and Permissions team: reviewing contracts for electronic rights and royalties status, clearing third party permissions for electronic use, writing customer contracts, viewing third party contracts, and writing website terms and conditions;

There were discussions within the senior management team to make sure that NPD was structured in the right way. It was decided there should be a lead and a chair in each project team. The chair should be a senior person driving it through and the lead should put together agendas and manage the team. SM chaired the SC once a month, but was also the lead in most of the project team meetings, which she coordinated initially. This involved putting together the agendas, and creating clear goals and objectives for each team.

SM created a project plan and with each of the chairs identified the core objectives for their teams. This included mapping the timelines for each objective and dependencies. As a lot of the teams have not worked with written out project plans before, it was initially difficult for some of the teams to form objectives and put deadlines on it. Each had unique tasks to achieve, and it was important to ensure they understood how delays would impact on other teams. So what SM did at the beginning of every meeting was to start with project updates from the rest of the teams, before focusing on the progress for one of the teams.[16]

With many simultaneously moving parts, communication was important. To facilitate the process, SM developed a way to keep the communication going using different tools. Some were borrowed from existing templates and project managers who have worked with online communication methods before, and making meeting minutes accessible to all teams. She created a global distribution list that included those who were not part of any team, to do monthly updates. All the project documentation including meeting minutes were stored in an online document library for easy access by everyone in the organisation.

- Building the Decision

Once the teams were set up, there were a number of areas within which decisions had to be made. The process started in April 2009, and continued through to January 2011, when the product was officially launched to the library market. All the teams were reporting into the SC and there were clear overlaps in terms of timescales and completion.

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[16] Interview with SM at Pub Com in London, on 6 October, 2010

NPD Project Time-Line 2009

April – June 2009

- Draft product features: April 2009 (PL)
- Define content selection policy and content selection: April –June 2009 (E)
- Create draft ontology terms: April –June 2009 (E)
- Finalise requirements for vendor and select: April-May 2009, June 2009 (PL,T)
- Outline revenue allocation and recognition models: April-June 2009 (B)
- Review author contracts and OK for NPD delivery: May-June 2009 (L)
- Write technical specification: June- August 2009 (T)

July - December 2009

- Business model finalised: April-November 2009 (PL)
- Confirm royalty requirements and liaise with back office on allocation model: Apr-Nov 2009 (L)
- Manage electronic permissions clearance for selected content May-December 2009 (E)
- Collate files for conversion: May-Sept 2009 (T)
- Sales and marketing strategy: June-December 2009 (S)
- User testing requirements, and develop schema: July –August 2009 (T)
- Manage product build Q&A: September 2009 (T)

Table Key: PL – Program-Level Management; B – Back Office; E-Editorial;

S-Sales, Marketing and Publicity; T – Technology; L- Legal and Permissions

Table 4.2: NPD – Phase 1 Project Plan Timeline

NPD Project Time-Line 2010

January - June 2010

- Write privacy policy and T&C: December 2009 –February 2010 (L)
- Manage content conversion: September 2009 – March 2010 (T)
- User acceptance testing: December 2009-January 2010, May-June 2010 (T)
- Q&A content from March – May 2010 (T)

July – December 2010

- Back office work/tasks: September 2009 - August 2010 (B)
- Product marketing plan implementation: September 2009- December 2010 (S)
- Product promotion: October 2009 - December 2010 (S)
- Post BETA product upgrade: Nov-December 2010 (T)
- Product BETA: July 2010-December 2010 (PL)
- Develop NPD customer contract: November 2009 –March 2010, Sept-Oct 2010 (S)
- Define ongoing ontology updates: August-September 2009 (October-Dec 2010) (E)
- Advisory board participation in product testing, pricing discussions: July –December 2010 (PL)

Table Key: PL – Program-Level Management; B – Back Office; E-Editorial;
S-Sales, Marketing and Publicity; T – Technology; L- legal and Permissions

Table 4.3 NPD – Phase 1 Project Plan Timeline

Tables 4.2 and 4.3 outline key product development tasks to initial launch and completion frames associated with each of the project teams. The implementation was made up of many moving parts that went on in parallel with each team responsible for a piece, and working in close collaboration with other teams. During this phase, there was ongoing

testing of functionality and features to create a user-centred design. SM spent a lot of time going back and showing the designs to librarians, or end users, and getting feedback, which fed into all parts of the product development. The work in each project team required involvement from the most senior executives. Each was not only overseeing the work of project teams, bringing discussion to what is feasible and practical, and chairing meetings, but also making decisions on key issues (or areas) and reporting progress to the SC.

Vendor Selection

The first thing to do was to select the technology vendor that was to work on the platform development. The discussion started in April 2009 and the RFP process took place from June 2009, with the involvement of SM, TD, and LD who assessed the strengths and weakness of each vendor and put forward some options to the EC. The team issued an RFP and got proposals from the vendors in a three-week period. The OSC then reviewed those in detail and had interviews with the vendors. They went through another round of questions, had presentations and the OSC answered detailed questions on what the project needed to deliver, whether each vendor could deliver and to what extent. They did a detailed analysis of the responses, went through presentations and got feedback from the EC. The OSC made the decision and the SC approved the decision.

The vendor was hired in August and the work started in October in collaboration with the Technology team. There was a delay between selecting a vendor in August 2009 and then starting the project in October. This was caused by mobilising people to start the work while freeing-up the resources from other projects. Once the vendor was selected SM had to write a functional specification for all of the requirements. The Technology team wanted a set of detailed ones, and for SM, it was quite straightforward to say exactly what the product should do. Until February 2010, the team worked on the functional specifications and SM taking the concept and starting to document it in more detail.[17]

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[17] Interview with SM at Pub Com in London, on 6 October, 2010

Content Selection

The Editorial team was responsible for a couple of NPD decisions, namely what content to include and the ontology development. ED was the head of the team and responsible for explaining the project, agreeing objectives and having discussions about what the product is and what content needed to go online. They worked closely with the Technology team that was responsible for digitisation of content and loading the content online, as well as building the ontology into the platform and supporting its development.

ED proposed the criteria for content selection in the initial proposal in 2008, which included a selection based on top selling and popular titles. London had the systems to select the content for both sides along the suggested criteria and splitting content 50:50. This ensured that the US also saw NPD as a global project. They then went through a process of checking the selection from each office, with the head of US Books signing off the US content and ED signing off UK content. The content that needed to go online needed to follow an understanding of who the product was for, so there was quite a lot of working through within the group that was responsible for selecting the content.[18]

Having worked at Pub Com for over twenty years, ED had good knowledge of the content, and was able to draw upon the London list, the California list, and also the type of product they publish. Some conflict did occur however within the Editorial group at global level when it came to selection. It was due to the different interpretations in the two offices about the type of diverse content that they publish. This meant that the selection had to involve agreement on definitions between the UK and the US on textbook versus reference content, and working through the perception of what their content was versus the reality.

Supporting the content selection process was the Permissions team that needed to work from that list to clear permissions for all the titles, and getting the PDFs to the Technology team so they can start digitisation. There were some delays in gaining clearance along the way, but the work was completed by the end of 2009. It was this group that also had to review the author contracts and confirm royalty requirements. This meant liaising with the Back Office team to ensure these are supported from a processing and technical standpoint. The new customer contact and privacy policy were written up in 2010.

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[18] Interview with ED at Pub Com in London, on 11 October, 2010

Ontology Development

The development of ontology was an in-house process led by the Editorial team with involvement from the Technology team and the external vendor. The work was running in parallel with platform development. SM led the project coordinating with both teams. She worked closely with Editorial to define what ontology should look like and led the conversations with the market to define how it should work. Editorial then got more involved to clarify which terms should exist in the ontology. The ontology was developed with the help from PX, an editor and an expert in RX who understood the product.

ED's involvement with ontology was high, and her experience at Pub Com helped to influence some of the key decisions on what to include and not include in the ontology. If PX headed down one path, and was not be sure, ED was able to look at it from a different perspective. This helped to influence the shape of the product that was launched. But, it was PX who developed the actual taxonomy of terms. ED helped to work out a structure for doing it and narrowed the scope when it started to get too complicated in terms of the inclusion and exclusion of key terms. Most ontology development occurred with the help from PX and SM, and the Technology team being involved from the technical side.

TD, who led the Technology team, worked closely with ED, SM and PX to make sure all parts were connected on the platform. There were conflicts at times on how they would ultimately achieve what the ontology technically needed to be, and how to get the concept into a technical format that works. The Editorial team was trying to get on paper what they had in their head and the technical team knowing what they needed technically, but not understanding the editorial side. At times, the two teams would not know how to proceed, but through a lot of negotiations, a common understanding was brought to the process.[19]

The ontology became a key component of the RX and it was finalised by the end of December 2010. It took more time and resource than expected and it was one of the unknowns at the start of the project. It took a lot of considered effort to make sure they build something that was representative of the RX space and would represent Pub Com's products. It ended being a very manual process that is not very robust in terms of

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[19] Interview with TD at Pub Com in London, on 6 October, 2010

managing it in the future. By the end, if they were doing it again, SM felt that bringing in an expert on the taxonomy and ontology would be useful next time.[20]

Platform Development

There were three spaces that had to connect at one point; the platform and the functionalities, how that would work with the content, and how the ontology linked to the different facets. Without one, the others would not work, and as the platform was evolving, all were developing along the way. The ontology is the glue behind the platform, so it was difficult to build it, not understanding how anything would work and having to make modifications based on where the ontology was going. A lot of the work on the platform was stunted until there was agreement on critical points of the ontology. It took the team seven full months to have something concrete. In collaboration with the vendor, the team was making sure the three different spaces on the platform connect; the functionality, how that would work with content, and how ontology would link onto that.[21]

The team was also responsible for the digitisation of content which was selected by the Editorial team. It meant that all the RX books would be available in digital format for the first time. The team therefore had to find a digitisation partner and outsource the work to them. They were given specification on how to digitise in a format that would work for the platform and that the quality of the digitisation was done properly. The process started before the technical development and there were six hundred titles in total. They would come in small packages of twenty to fifty books at a time. Five hundred books were put online with the goal of digitalising the final one hundred before the January launch.

The Technology team, however, did not know the scale or the scope of the project at the start. It was under-resourced and missing some expertise, so there were delays in content conversion and upload. The team also experienced shortfalls in other areas; this included needing more quality assurance people to look at the quality of converted content, building the ontology, having expertise and the bandwidth to do conversions, specifications, and reviewing different iterations of the product through delivery of each iteration.

The ontology turned out to be more work for the Technology team which also had to manage platform and load testing to make sure it can deal with the number of people

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[20] Interview with SM at Pub Com in London, on 6 October, 2010
[21] Interview with TD at Pub Com in London, on 6 October, 2010

coming on at any one time. The team ended up getting more resources to support some of the critical areas. If the ontology was developed before the platform, it would have helped them with content conversion and technical development. By the end, TD felt that more time would have also allowed the team to test things a little more thoroughly, but they had to do the best with the available resources.[22]

Vendor Involvement

In making the decision on the technology vendor, the team went through many different stages, with different groups, making sure the due diligence was done properly. As soon as that was done, the Technology team focused on working with the vendor to understand the product and the timeline and to develop a plan. There were a lot of conference calls and brainstorming sessions of features and understanding of what technology could look like.

The first thing to do was to make sure that they had a schedule that defined each one of the technical events that would occur over a ten-month period. They would make sure that the goals and expectations were clear. The vendor would then deploy it to the team who would do user and acceptance testing. During that time, the Technology team also worked with SM to understand how they would technically achieve the goals that were set out in theory. To do that, they continued to have meetings with the vendor to make sure that they understood what they were trying to achieve, in scope with the project.[23]

The first half of the cycle was about specifying the platform and making sure they had a timeline that continued to support that goal. As soon as that was finished, the team went into development. There was a small crossover which allowed the vendor to start building a foundation for the technology. It meant that when the specifications were finalised, they already had the platform to work on. The team ended up with about fourteen or fifteen iterations through the process of that extended over a period of ten months.

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[22] Interview with TD at Pub Com in London, on 6 October, 2010
[23] Interview with TD at Pub Com in London, on 6 October, 2010

Business Model

Potential business models to sell NPD were discussed in the early stages of proposal development. Some options were outlined in the proposal, but the decision was made at the end of 2009 by the SC. The key question was whether they were to sell a subscription or a purchase product. Few were keen to sell a subscription product, because it has ongoing revenue, and it proved to be profitable on the journals subscription side. The team went in thinking they would only use a subscription model, but at the same time, understanding that librarians have a demand for two different ways of buying the product.

At one point, the team was set on going ahead with a subscription-only model. But PD talked with their Sales and Marketing teams and was advised that there had to be another option. The librarians sometimes just want to buy the content; they have one-off money, and they want to buy it. At other times a lot of their business is through a subscription model, so they needed two models. There was resistance from the Back Office team as it is very complicated to offer that, so they were questioning how best to deliver it and whether the product itself should logically be a subscription product.[24]

The purchase requirements and the budgets vary between the UK and the US markets. It meant that the NPD team had to find a solution which would accommodate different sets of demands. There were also different needs of global teams within Pub Com; for example, the sales team understanding the US market and the need to have an ownership model because of the type of funding available. As a team, they wanted to find a solution to this, and LD's role involved learning how important that was to the US counterparts, and explaining to them the difficulty of delivering their model the way they had envisaged it.

To try and deliver a product in two different ways, it all looks exactly the same, but what and how they are buying is different. The issue comes in when somebody who buys the product stops subscribing to ongoing content. The original idea was that they could continue to have access to what they had already purchased, which is a typical journal model. But in a tool like RX, the customer would only have access to what they had purchased. The rest of the tool would not work, because they would be searching across content, using the new RX map, but they would not have access to the new content.

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[24] Interview with LD at Pub Com in London, on 2 October, 2010

A customer could purchase the ownership of the content, but they would not own the tool. The team managed to disambiguate the content from the tool, in terms of what was to be offered to the market. This solved the problem of the ongoing technology support, by giving customers an extract of the content that they could keep, but if they wanted the tool, which is more difficult to maintain, they would have to keep subscribing. The two global offices were able to come together with different perspectives, and reach a consensus. The outcome of the discussions was that the team decided to go with the subscription model, but came up with a way of also delivering the ownership model.[25]

Pricing and Revenue Allocation

The decisions on pricing and revenue allocation were part of the Back Office team's responsibilities between January and August 2010. It was complicated as the business model was being worked on at the same time. Given the market feedback NPD was priced up in the end. The libraries were willing to pay more so that was an ongoing adjustment in the NPD process. The team talked to the librarians when conducting the research on pricing and SM visited a lot of librarians alone. The outcome was that the product was re-priced at the very last minute because of all the positive feedback from the market.

The team also made some decisions early on, one of which was on how much of the price was the value of the platform, or the product, regardless of the content, and how much was the content. At the start, it was decided that twenty-five percent of the price should be for the product, and seventy-five percent for the content. It was then changed to 70-30 ratio, and they wrote to all of the authors informing them of the change. FD felt they could have pushed for a bit more, that the price should equal the value of the platform itself, but they came up with numbers by benchmarking against competitors who use similar numbers.[26]

There was a lot of input from the external accounting firm, DX, and FD's counterpart in the US, FDU on how to allocate revenues. The FD in the US normally took a hard-line accounting view, and in this instance, he took all the advice from DX as to how they should do the revenue recognition, and wrote a whole paper on it. They reviewed it and accepted it, even though FD felt that some of the accounting logic behind it was questionable. But, the end result in terms of revenue allocation and accounting over time worked out fine.

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[25] Interview with LD at Pub Com in London, on 2 October, 2010
[26] Interview with FD at Pub Com in London, on 28 October, 2010

By the end, FD and FDU had all the documentation and authority from DX in terms of auditing and NPD support. FD could see how they were spreading the revenue, and it seemed logical in a way in which they would want to earn the revenues over time, in order to fit with how they wanted to grow the company and how they wanted to see the product fit into that plan. It was important to reach an agreement with DX to make sure they are doing something that they find is technically supportable from an accounting point of view.[27]

<u>Back Office Support</u>

At the time, a lot of effort was already going into the back office, in terms of developing the systems to better support existing products. NPD was new, but in planning other similar products for the future, back office issues had to be worked out in any case. FD was very involved at this stage and the first thing the team did was to brainstorm the implications of those products; how is it different from what they already do, what are the things they are going to consider in the next year, and the time frame they need for it.

There was a circular piece in the process. The Back Office team needed to feed their thoughts into the Sales and the Editorial teams, in order to help them with their decisions. The implications for the back office are different, when deciding how they are going to deal with author royalties and subscriptions, or an outright sale of the product. The back office makes it harder as the business is complicated and this makes it difficult to just come up with a new idea and deliver it. As NPD was a new type of product there was a lot to work through and understand in terms of the longer-term implications for Pub Com.

The team handled the back-office logistics of NPD, which included price and revenue allocation. The focus was on integrating NPD into existing systems. The team experienced difficulties along the way in working out the timing, and the links between the sales and editorial pieces, which were still in development. There were lots of market conversations still going on and the decision on the business model not finalised at that point. There were also a lot of questions on how to deal with royalties and subscriptions and a necessity of fine-tuning what is being sold, all of which has big impacts on the back office.

SM was acting as a link between the teams, but it was not an easy process, as the decisions on the revenue allocation and recognition depended on the business model. How and what they were going to sell kept changing. This had implications for how they would take the

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[27] Interview with FD at Pub Com in London, on 28 October, 2010

order and revenue recognition. One goes in with what they believe is a standard product, and very quickly run into libraries saying, "Could we have it like this, or could we subscribe but also have ownership at the end of it? Or, can we pay 3 years upfront and another 2 later?" They are quite large sums of money so it helps to accommodate that, if possible.[28]

One of the roles FD therefore tried to play in the process was to point out the back office cannot cater for every single sales conversation that is going to happen, and every single request. Rather, they have to try and simplify it and try to standardise them as much as possible. So when the sales team go out it makes it easier as the library market world is complicated and each librarian's requirements are very different. The sales team have to be aware of that when they try to sell it and there may be refinements to make as a result.

FD felt the key was to firstly build what they know now, and then deal with enhancements, if required later on. It was about keeping in mind the size and the value of the deals, to allow the customers ultimate flexibility. But it was also about bringing people back to the practical, and what is more commercial to do, rather than worrying about catering for every single request from the library market. There are times when it is easier for sales teams to sell a one-off purchase, which is a different pot within the university. The back office team therefore had to reign the sales team back in and say "No, it's the subscription that we care about. The one-off purchase is only if you can't sell the subscription.[29]

The team spent a lot of time on the sales model; the implications for the back office, and defining the specifications from the order processing and accounting points of view, in order to account for the sales properly. NPD crosses books and journals, so the Sales team had to work on what they thought the ideal sales model was, and the Back Office team had to work through the implications of that in the back office. After that was done, the only remaining pieces were IT gathering the final requirements and the back office building NPD into the order processing system that was already in development.

At times it was difficult for FD to make decisions, as there was also FDU who had strong views and who took advice from DX on revenue allocation. It was difficult to collaborate across teams and there were some meetings where IT did not turn up even though they needed to be there. The team took on PM who was a project manager on an IT project which involved putting in a new order processing system for their more complicated

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[28] Interview with FD at Pub Com in London, on 28 October, 2010
[29] Interview with FD at Pub Com in London, on 28 October, 2010

products. They put him over NPD as well, and it was helpful that someone who had time to think about the action points, push people along, and plan the agenda was involved.[30]

Some additional resourcing was needed in the Back Office team to build the system to support NPD. It was about defining what needs to be done to process NPD orders and sales through the existing central systems. The delivery of the order system for NPD was dependent on the order system they were creating which had only been implemented in the summer of 2010. They were waiting for one piece of technology to be in place before they could adapt it for NPD. That was an outstanding issue, and some parts of the processing system did not work properly which caused some delays along the way.

- Supporting the Decision

<u>Removing Obstacles</u>

While PD managed to defeat the politics sufficiently to get the decision taken, it was still not the same as getting the implementation agreed all the way through the organisation. There was asymmetry with people in the UK very invested in it, and people in the US thinking "it is not made here", and yet he needed full global buy-in, beyond PDU who needed to approve the decision in February 2009. To do that, PD would call meetings that were not necessary to driving the project on, but provided a space where he could reiterate that Pub Com was going to launch NPD and that all need to make it a success. To try to create space within which SM could do her project management, PD also needed to do individual lobbying with people who he did not have direct power over in the US.

In NPD, different individuals needed to be engaged, from the CHA and the CEO, to PDU who was a sceptic, to the Head of Sales and Marketing and the Head of Library Marketing. PD made interventions when necessary, mobilising or engaging those levels. Sometimes he needed material from Marketing to get senior people more excited and sometimes he needed senior people to say, we need this, by then, to get them mobilised. PD let SM and ED focus on creating the product, and the same went for OSC selecting the vendor. He did not get directly involved with any of that, only made interventions as he felt needed. The critical thing was that with SM and ED he had the right people at the heart of it.[31]

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[30] Interview with FD at Pub Com in London, on 28 October, 2010
[31] Interview with PD at Pub Com in London, on 11 October, 2010

Steering Committee

The SC approved all the decisions that were made in NPD project teams and the committee made the final decision on the business model. The committee was also responsible for regular encouragement and hearing progress reports, removing obstacles and signing off decisions made in project teams. However, the timing of the issue coming from the project teams, and the timing of the SC meetings, did not always match. At some SC meetings there would not be much to talk about, but there were a few key ones where it did work and helped to resolve things, as was the case with the business models.

The timing not being quite right meant that some issues had to be resolved separately in the end. The SC helped by responding to major decisions and monitoring the progress along NPD's timeline. It supported the Technology team well which needed more SC guidance and feedback than other teams. TD, who led the team, made sure that SC understood all the technical decisions and to receive feedback on questions his team had for the SC.

As an organisation, however, Pub Com is not comfortable with conflict and do not want SC where everyone sits around and say "Well no, you're doing the wrong thing" and "You got to do this". They want one where all are saying what a wonderful job all are doing, and maybe highlight a very small issue. The SC people can all agree on what the issues is, give their judgement and leave the room. It is why SC as a forum does not work well in that regard. There is no way anyone is going to go to a SC with some huge unresolved issue.[32]

The more likely scenario is that they would sort it out before they ever got there, and then all they would do is report it once they got there. If it happened to be in the next couple of days, that would work, but they certainly would not leave it a week, or two weeks. Between FD and another senior person in Pub Com, one could say "Well, we're not sure, are we, we'll bring it up at the SC", as long as both agreed on what the issue was and that it would be brought up in one of the SC meetings. But it would not come up in a meeting as an issue on which there was no agreement... It would not fit with culture at Pub Com.[33]

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[32] Interview with FD at Pub Com in London, on 28 October, 2010
[33] Interview with FD at Pub Com in London, on 28 October, 2010

Project Level Issues

SM who was project-managing NPD was stretched in terms of time and this led to the decision to hire a local temp halfway through the project. She also lost a product manager in the US, which meant that they had to increase resourcing in product development. However, it was the Technology which turned out to be the real bottleneck. The Editorial team would deliver the content to them and they would organise it for digitisation, upload it and send it to the technology vendor. They were sending the content to an Indian company, but there was a delay in checking that content and uploading it online.

ED observed that it was also difficult at times to close decisions. A decision would be made and a month later they would revisit it and challenge it. One example was looking at the digital rights management which is concerned with downloading files. There were questions of whether PDF and printing should be allowed, or not; whether people should be allowed to copy books online. It is a major decision because of the potential risk of titles leaking out free of charge into the market. There were a lot of conversations and presentations around those issues and how to find the best solution. A decision would be made, but a few weeks later someone would raise the issues again, and they had to make the decision again. It happened a few times with the decision on the business model.[34]

There were ongoing challenges around resourcing in the Technology team, to support NPD, which resulted in some delays. The team experienced some delay in the quality and assurance of content, and a delay in starting the work with the technology vendor. They had a project manager who had personal issues for three months at the start, which meant they did not get moving properly. The resourcing challenges in Technology impacted some completion timelines, but one of the good things to emerge was the Back Office project manager who moved things in the right direction. Also, when it came to customer services, it was less about selling the value of the product, and more this is the product and the date, this is how to access it, this is what to do and the person to contact, if this happens. It was very practical in the end, but still with a lot of anxieties in the group around workload.[35]

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[34] Interview with ED at Pub Com in London, on 11 October, 2010
[35] Interview with SM at Pub Com in London, on 6 October, 2010

- Launching the Product

The final proposal was presented in November 2009, and through to September 2010 it was all about product development and the Technology team working closely with the Editorial and the Back Office teams to launch it. The product was ready for Beta launch and live user testing in September 2010. SM was going out and doing user testing, before a live launch. There was a month where it was only a select group of people that could get access, and SM was scheduled to talk to that group and get feedback on the product.

Throughout the process the team were connecting with end-users and buyers and doing testing; it was mostly about showing them designs and getting feedback, and giving them more functional wireframes that they can click on, from the full site. At the end of August, they launched the site in closed Beta. This was an invite-only phase, for four weeks, where the editorial board and a selection of libraries globally were invited to participate in testing. SM went out and TG, the new product manager, went out and did usability testing.[36]

Closed Beta was an affirmation phase for Pub Com, that they had built a product that was going to be valuable. It was also needed because the platform was not in a launch-ready state yet and there were a few bugs to fix. There were some errors in the quality and assurance made by the Technology team, and the vendor was not great on the project management side. They were initially planning for about hundred libraries to be part of the initial launch, but because of the state of the platform, they reduced that to only ten institutions. That decision was made by the SC who met just before each launch.[37]

Open Beta version of the product was launched on 1 October 2010. The sales team identified five to six hundred libraries to make it accessible to at that point. It was a staggered-launch invite, with anyone being able to sign up for free access up to the end of 2010. It was a big e-user engaging promotion and the development of that continued to December, to keep responding to market demands. The team had to make some adjustments on the level of the online features, and had to be selective on what to include or not in order to meet the deadlines. There were compromises and some critical decisions that were made along the way on that piece.

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[36] Interview with SM at Pub Com in London, on 6 October, 2010
[37] Interview with PD at Pub Com in London, on 11 October, 2010

At the point of launch, load and sales strategy were the remaining things left to do. On the load one, PD would hear reports through the SC. On the sales strategy, PD tends to get involved directly, talk to the key people at Pub Com and point out the opportunity to get off to a good sales start before January. The sales team went out and started to build up prospects soon after the Beta launch. It was then mainly about marketing and selling the product, with more to be done on the editorial and the technology side.

The Technology team was still working with the vendor to clean up issues that are counter-intuitive to users. There was more work to do on building the product, and going forward they needed to make better judgement around how much development to do in the light of user feedback. Until January 2011, NPD was still in active development with more content to load online in that year, but on a much smaller scale. They had the budgets from the sales teams and the NPD team's priority was getting the best product out by January.[38]

IV.   Outcomes

Historically, and even more recently, Pub Com was dependent on revenues and profits from journal and book publishing. Part of the logic was to create a new type of product, an online-only research tool even if destined for the library market. This was seen as a way to provide an alternative growth strategy for Pub Com, as other models have limitations in a changing and increasingly digitised world. NPD had always been conceived as a pathfinder and now that it has found a path, they can push more products down that route.[39]

By the time of the launch, most senior managers felt it would be better to have smaller groups next time, even though the big infrastructure helped to raise the profile of NPD across Pub Com. The need for a strong organisation, good communication, people with a clear sense and a project plan proved to be invaluable. The team also felt they should have chosen the business model sooner, and they should have tooled up the Technology team to make sure they had plenty of time for quality and assurance and digitisation of content.

Development of resources, to support future online products, evolved out of NPD. They increased the amount of resourcing in the Technology team by fifty percent and they are reorganising teams in terms of future business support. The tools the Technology team built along the way, or that had to be adapted to make NPD, can be used for other product

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[38] Interview with TD at Pub Com in London, on 6 October, 2010
[39] Interview with PD at Pub Com in London, on 11 October, 2010

developments. There are new people employed at Pub Com that they did not know they needed before, but NPD made it clear they cannot go on without such expertise.[40]

The new NPD project handbook outlines processes that they would have to go through to create a product and how the decision making would work in the future. It outlined how to make and sign off decisions on new online products at Pub Com. It explains how to manage an online product from decision to launch, and the structure in terms of meetings, project plans, and how to track tasks and actions from meetings. It provides instruction on product management, so once a product is launched, how does a product manager engage with the product, and what is their responsibility in managing that online product.[41]

ED felt that the Sales and Marketing teams should have been more confident and bullish in the process. Initially, they undervalued the product, and it took the team several rounds to get the price up to a higher level. It would have been good to have had more engaged sales managers earlier in the process to help get the feedback from the market and feed it into business model discussions. As a result, one of the outstanding decisions for 2011 was to increase the number of sales people worldwide and expand sales capacity. But the project made it clear that vision and understanding need to be there from the beginning and things need to be worked through in depth to turn them into more than just a sum of the parts.[42]

By the end, it was clear that if the team did not have SM, it would have been more difficult to even to get to the approval of the blueprint. In order to stretch themselves in the future they have also set up a new product development team, that is now led by SM. Pub Com expected to tilt the organisation's emphasis and resources towards a product innovation strategy, and NPD has had a fundamental impact in that way. However, they will also do other kinds of innovation at some point, which will be new again. PD felt they need to build in sufficient long expectations, not underestimate the resource and difficulty of doing anything new, and the disruptive impact on the rest of the organisation. They did not do so badly in the NPD case, but it taught them they were right to think of it that way.[43]

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[40] Interview with TD at Pub Com in London, on 6 October, 2010
[41] Interview with SM at Pub Com in London, on 6 October, 2010
[42] Interview with ED at Pub Com in London, on 11 October, 2010
[43] Interview with PD at Pub Com in London, on 11 October, 2010

4.3.2. Case NLO – New Location

I. Background

- Late Entry into New Market

The question was one of how well Pub Com was engaging with its international sales, marketing and distribution capabilities. The BOD wanted to do something in the region as many competitors were already there, but no one at the time knew what to do, or had experience of the APAC market. The company had recently taken a hundred percent control of its India office, and felt that with adding an APAC office, Pub Com would have a solid strategy for the whole of Asia, a more holistic coverage of the market.

The initial discussions amongst EC members, at various strategic off-sites, highlighted several factors that made it appropriate for Pub Com to go ahead with the decision to invest in the APAC markets. There was the changing situation in China with a combination of economic growth and a change in Chinese government's approach to intellectual property management. Becoming compliant with the Berne Convention was also a major one. These factors were transforming the potential of that market for Pub Com.

Then, there was a change in Pub Com's overall strategy towards a stronger focus on international markets, and a number of different places in which that was coming to light. Over the previous five years at Pub Com, London's economic base had also enlarged substantially. There was a change in the level of resources available to them that made it possible to expand in international markets. It was only a matter of someone taking it on and seeing how to approach entry into a market no one had experience of at the time.[44]

The decision to move into a new market was not a difficult one to make, especially given the need for Pub Com to have on-the-ground presence. APAC was an important area of geography that was missing and Pub Com was lagging behind competitors who already had presence in the region. When senior executives would talk to journals, societies or authors of books, they were used to Pub Com's competitors being able to say that they had representation in APAC, and Pub Com's was not able to do that, for a long time.[45]

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[44] Interview with MDL at Pub Com in London, on 9 August, 2010
[45] Interview with COO at Pub Com in London, on 13 August, 2010

It was important to authors and customers that Pub Com had representation in APAC and on the ground as oppose to being handled from distance. Opening a new regional office would mean Pub Com being able to represent clients on the ground, and increasing sales of its books and journals in the market. They were already seeing significant growth in higher education in APAC and it was becoming an important territory in terms of education in the industry. Significant opportunities in terms of increasing the number of journal deals, which they had very limited number of at Pub Com, were coming to light.[46]

Then, on the books side, they had a sales manager (BD) who is now the Director of Books, looking after Asia from the London office, making periodic visits into the region, and showing there are sales to be acquired in the local markets. Prior to opening the APAC office, the CEO authorised MD's decision to move BD into the region and continue running the operation from there. This local sales operation would then become a big part of the APAC entity, in terms of book sales in the region, once it opened in September 2006.

- Objectives

The importance of on-the-ground presence in the region to Pub Com and its customers was clear to the senior management team. Four objectives were set which clearly highlight what the expansion into the APAC was intended to achieve. These were as follows:

- Efficient maximisation of sales of Pub Com books in the APAC market;
- Efficient maximisation of sales of Pub Com's journals, collections and consortia deals in the APAC market;
- Brand visibility not only to build future presence, but to convince the authors and society partners in the West, that Pub Com has a strong and appropriate capacity to reach potential readers in East Asia;
- Generation of content from the market as a contributor to Pub Com's long term growth strategy;

The objectives were a concerted effort to reformulate Pub Com's Asia strategy. It was not about generating more sales, getting closer to the retailers and growing the consortia business in a market where it was weak in subscriptions. Rather, it was about changing Pub Com's brand visibility in that part of the world. There were brand issues to consider, partly the presence and visibility of the brand on the ground in APAC markets, but also the

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[46] Interview with SMD at Pub Com in London, on 9 August, 2010

credibility of the brand within the European and US markets. Its competitors were using the claim that they would more effectively sell people's content in those markets as a way of trying to undermine Pub Com's presence or offers to authors and editors.

Pub Com therefore needed to be visibly stronger in how it was handling APAC in order to strengthen its brand offering in those markets. There was also a long-term content acquisition question on how to ensure that it was getting the right flow of the right content from the APAC markets. That was the eventual target, and the set up of APAC headquarters was an initial step towards further expansion into the region. China is a huge market and it was the eventual goal for Pub Com. However, it turned out to be a major difficulty that extended over a period of years, before finally becoming a reality.[47]

MDL led the project, with the CEO very involved at key decision making stages. One significant change was the restructure of the London office which left FD and PD in charge, allowing MDL to focus on APAC as the new President of International Sales. MDL was to remain the key point of contact between the newly appointed MDA in APAC and the US/UK senior management team. The new local team in APAC was responsible for building the NLO office, with the support and approval on major decisions from the UK team.

II.   Formulation

- Coming up with the Concept: January 2004 to July 2005

Historically, Pub Com was cautious when it came to growth and expansion at the level of opening a new office in a different part of the world. The possibility of the move into the region started to surface in January 2004, with the appointment of the new CEO. But, at the time, no one at Pub Com knew what should be done, and the issue of what to do with APAC was one that the MDL wanted to take more personal responsibility for. He had informally discussed the potential benefits of new business development with PD for about a year leading to that point, so there was a question around who should take it on. In the run up to the initial EC discussion, PD had also hired a new head of international sales, TX who brought to bear his own perspectives on what the opportunities were, as did BD.

BD was a sales manager reporting to TX who was, at the time, relocating to Malaysia for personal reasons, a decision that was made before proceeding with the assessment of the

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[47] Interview with MDL at Pub Com in London, on 9 August, 2010

opportunity in the APAC market. SMD, the director of Sales and Marketing, and a number of different stakeholders within Pub Com London, were voicing their perspectives on the fact that they should be doing something different in the region. Within the US, SMU who was at the time the head of the Sales and Marketing organisation in the US thought there were opportunities Pub Com was not fully exploiting. PDU who helped with the research also had views on the expansion, and MDL's own thinking was partly shaped by the inputs from those internal stakeholders.[48]

The CEO at this point had not identified an APAC strategy and what was proposed to him by MDL, was that the BD, a sales manager in the London office had an interest in moving to Malaysia. His feelings about such a move were mixed, since he did not want BD's move into the region to define the APAC strategy. If they were to move into APAC, he wanted to do it correctly, and adopt a more strategic, as oppose to a piecemeal, approach into the region. He was set on investing considerable resources into the move, but by signing off on BD's move, he made sure that the rest of the work that followed was conducted in an objective manner, and was not based on the interests of one individual.[49]

The initial idea was formally discussed in July 2005, when the CEO requested a full-scale study of the opportunity. At that point, everyone knew that Pub Com needed to do something and MDL was the one who came up with a basic shape of what that should be and did some research and assessment in collaboration with PDU. PDU was a member of the EC, but was based in the US office. The research was conducted after the July 2005 strategic conference and saw the two offices collaborated in those early stages.

The detailed assessment was to address the question of where in the APAC region an office could and should be opened, what the appropriate staffing level should be, and what the primary focus of that office should be. The initial decision was made at the EC strategic off-site in July 2005 to go ahead with expansion, i.e. the decision to continue the assessment and the business plan in more detail. The next step was to then make a more confident decision, supported by the annual SPP which was similar to other decisions of that size.

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[48] Interview with MDL at Pub Com in London, on 9 August, 2010
[49] Interview with CEO at Pub Com in London, on 18 August, 2010

- Case Assessment and Proposal: July –December 2005

The significance of APAC as part of Pub Com's marketplace has been recognised in a number of projects within the 2006 operating plan, devised by the COO. It included corporate level projects such as identifying third party representation in internal territories, developing strategies for exploiting the APAC market in journals, completing the APAC agent network, proposing options for China, investigating marketing opportunities in Japan to support current selling structure. However, what was missing was an overarching plan of action in terms of how to meet a whole range of organisational needs in any approach to APAC, and how these elements can best be coordinated to deliver the best outcomes for a set financial investment. This was the initial task for MDL during this phase, to assess the opportunity, and with no experience of the region at Pub Com, it was a risky one.[50]

At the onset, the CEO expressed a desire to approach the move into the APAC region aggressively. Pub Com was at a point where it was already late into the market so it had to be a bold move in order to catch up and make the most of the unexploited sales opportunities. The CEO wanted to devote a lot of resources and gave the team three guidelines in terms of how to proceed. Firstly, he requested the study of the market opportunity, and secondly he asked the team to pick a city where the new office will be located. He also had to make a decision on the reporting structure to accommodate the move. At that point he made it clear that he did not know if the new entity would be reporting into US or UK. He was to make this decision after he had seen the analysis.[51]

MDL spent a good proportion of the second half of 2005, thinking about how to approach the entry into the APAC markets and preparing documentation to enable a decision to get taken. Having terminated the previous head of sales and marketing about a year earlier, he had taken the lead in assessing Pub Com's international sales and marketing strategy and deciding how to move forward in those markets. He conducted the analysis in conjunction with PDU, who delegated some work to an external consultant in the US.

The analysis also included input from the COO, and other senior executives who looked at the existing sales in APAC and some projections of increased sales with an office and more resources in the region. But MDL was the primary driver, and he primarily used the London team. In analysing the market, he used the Marketing Director in London, SMD and

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[50] Interview with MDL at Pub Com in London, on 9 August, 2010
[51] Interview with CEO at Pub Com in London, on 18 August, 2010

Sales Director, TX, and what emerged was a solid piece of analysis, about the potential of the market and what the possibilities were for Pub Com.

There was a big bundle of documentation which looked at things like how many different journal purchasing consortia were in each market, how many universities, and how many billions of dollars were spent on higher education. The background information was interesting, but it was the internal information on own sales performance in markets which was more revealing. The growth rates on that performance were richer and directly applicable to the nature and the scale of overall sales potential in APAC markets.

The business case was presented to other EC members in December 2005. It was based on the assessment of not what the competitors were doing, but internal research and data gathering in terms of what is possible with the new office. These were the main inputs into the decision making process. But so was general judgement and saying that out of the many things that they were doing on the daily basis here are the reasons why this set of actions seems proportionate and appropriate for this particular purpose at this particular time.[52]

- Getting the Approval: July 2005 – February 2006

The senior management at Pub Com were all in favour of NLO, but there was the question of location to decide upon. The CEO wanted to make sure that the move was not due to BD's desire to relocate, but Pub Com's need to establish a presence in APAC. Only a handful of senior executives were involved in this decision and the approval occurred over a period of time, for different stages of the decision. The CEO was talking to BOD members individually, but his approval to MDL was enough to proceed with the decision.

The CEO did not have experience in APAC, so he asked the BOD to help him understand the market, by pointing him towards sources outside Pub Com. While the analysis of the opportunity in the region was taking place, the CEO spent a couple of months gathering information on his own to enable him to approve the decision. He made lots of phone calls and talked to lots of different people, just to get different types of feedback. It is sometimes his greatest contribution to push the BOD and some shareholders in one direction, and that is usually the role he plays, and the role that other executives need him to play.

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[52] Interview with MDL at Pub Com in London, on 9 August, 2010

So whether Pub Com is expanding into APAC or whether it is about to acquire another company, the role the CEO plays is getting shareholder and board approval for the executives in his team. With the analysis being completed by MDL, the CEO felt that sixty or ninety days later, when the white paper was to be presented, and discussed as a group, at the next EC meeting, they would have some foundation or knowledge about potential in APAC. By the time they had a formal board resolution to expand into APAC and create a new entity called Pub Com APAC the decision had been made and agreed to by every single BOD member, one on one with the CEO, so at that point it was just a formality.[53]

At the December 2005 meeting in Miami, the EC lined up the issues and put on the table a resolution for APAC. None of the team had any experience of dealing with APAC, so they were all sitting around the table with a lot of opinions of how best to do it, but no one had done it before. The team talked about pros and cons, the opportunity, the cost, and looked at the business case, before approving the expansion. COO helped to formulate the next steps through the operating plan and CBI process, leaving all the decision making to MDL.[54]

The key people working towards that resolution were CEO's direct reports. There were two key stakeholders in the decision; MDL, representing Pub Com London and PDU, who was the Executive Vice President of Higher Education Group in Pub Com US. MDL and PDU worked separately, but both preparing materials to support a decision to be taken at the December meeting. The two worked on a group of reader heads and proposals. The ultimate process was that the meeting reviewed those and a decision eventually emerged out of the materials; a month or two after that meeting.[55]

- At the Point of Go-Ahead: December 2005

The document that was produced was in a shape of a short term proposal to open up a regional office in APAC. Hong Kong and Singapore were the main contenders, but the decision on the location was only to be finalised later, once the MDA was hired to manage the local operations. By that point, London had already committed to creating a regional space for BD to act as an international sales manager based in Malaysia. The proposal was an extension of that concept at the time of Miami EC meeting in December 2005. It was a discussion paper that paved the way for recruitment of the regional MD.

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[53] Interview with CEO at Pub Com in London, on 18 August, 2010
[54] Interview with COO at Pub Com in London, on 13 August, 2010
[55] Interview with MDL at Pub Com in London, on 9 August, 2010

The initial objectives were to make progress against targets under each of the four main objectives and to develop a proposal for a longer term plan to be submitted during 2006 for the 2007 budget. A possible shape for the initial staffing was proposed, in addition to BD who was to handle agencies and direct representation into APAC. Funds were allocated to accommodate BD's relocation. But at that point, no resources were as yet allocated for the journal sales and channel management, including journal sales partners, or the head of the NLO office to be responsible for planning and editorial development in APAC.

At that point, no resources were allocated to pay for the activities of a regional sales partner either. A cost-benefit analysis was conducted for different scenarios in books, and remained open for the other three objectives; journal sales, brand enhancement and editorial presence in the region. Some idea was given of the longer term picture in terms of the development, and taking the initial office in a number of different directions. It was also anticipated that appropriate advice would be taken from each of the functional teams, including HR and legal, at each stage of the new office development.[56]

Three different models of management structure were outlined for handing the development of initial office or offices, as were the possible time lines for office development, book and journal sales. The first option was a representative office with individuals reporting to heads of departments in the UK and the US offices. The second option was a separate management structure, but still not a trading entity, with the sales and costs financed by the UK and the US. The third option was a separate option within the corporate structure, an independent company operating under Pub Com ownership and with trading agreements with each of the other offices, in the style of UK or India model.

By the time the business case was reviewed, there was a general sense of how far behind Pub Com was in terms of entry into the APAC markets. The key question at the meeting was just setting out a strategic framework in terms of agreement that some resources need to be invested that are not currently budgeted, those resources should look like this, here is a general approach to entry into the market, and then working out who was going to do it. As long as the EC could work out those things at that stage, the team was confident they could resolve all the detailed issues in the implementation phase.[57]

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[56] Interview with MDL at Pub Com in London, on 9 August, 2010
[57] Interview with MDL at Pub Com in London, on 9 August, 2010

The decision to proceed with establishing an APAC office was linked to the decision on restructuring of Pub Com London to accommodate MDL's time reallocation to setting the workings of that office. Those two decisions were taken conceptually at the EC offsite in Miami. The EC approved the decision to go ahead and establish an office, but it still had not decided about the type of office and reporting structure to support the move. The team was happy to return to those questions in the implementation phase.

III. Implementation

- Initial Stages

Two key decisions were made in the couple of months after the Miami meeting; one, the type of NLO office to set up and two, the restructuring of the UK office to support it. What the MDL put on the table in the Miami meeting were different options, but tending towards more conservative level of investment saying they need to have four people out there in the market as an initial holding force, with an office to accommodate them, but MDL was not envisaging it being a whole company at that time. He was not envisaging Pub Com London being restructured in order to enable the development to take place.

At the Miami meeting MDL outlined a plan for adding key personnel in APAC and creating an entity in the region. There were different options and the CEO was more aggressive in terms of wanting to immediately go for the strongest of the three options, which was to create it as a whole new company, in its own right,. The other options included the entity being an office but not a company. So, the immediate consequence of the Miami meeting was that it had become clearer that Pub Com would go a bit more strongly down that route, in terms creating an actual trading entity, a company in its own right.[58]

The decision that NLO will be a sales and marketing company, not a representative office, was made informally between the CEO and MDL. Two structural issues associated with a second decision associated with development, were who was going to take responsibility for NLO, and then how the UK was going to be restructured to enable MDL to take it all on. The issue involved a long debate about MDL's use of time and addressed CEO's concerns about whether it was feasible in the long run for MDL to have the responsibility for the London office and the development of the new APAC office.

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[58] Interview with MDL at Pub Com in London, on 3 September, 2010

The CEO thought that he would end up having APAC report into the US office in California. He looked at the analysis, and saw a strong connection between the US and APAC. He was fairly certain that was the way he would end up taking the decision. But, what came out of the analysis was, for MDL and his team, a passion for growth in Asia, to make a difference in that market. As he read through the document, he felt that MDL would put his heart and his soul into making it successful.

North Americans are also very myopic. They do not have to look beyond the borders to be successful. They can be doubly successful if they do, but Pub Com could be a good academic publishing company if it only sold into the North American market. He became concerned that they would do a reasonably good job, but they might not have the passion, the dedication and the commitment that the London team showed. He just felt that their chances of success would be much greater if they reported into London.[59]

The result was a restructuring of MDL's responsibilities within Pub Com London, so that he would have more time to devote to taking responsibility of the APAC office. MDL was put in charge of international sales, and PD and FD became his deputies. Those who had been reporting to MDL as Directors of Pub Com London would report to either PD or FD, so that MDL would no longer have direct reports in the Pub Com London senior management team, other than FD and PD. That was a major re-organisation of the business which took place at the end of January 2006, and then proceeded with hiring MDA during the spring of 2006. Meanwhile PDU, who was also keen to be involved in NLO, recognised that she did not feel able to take on the same scale of reallocating responsibilities in her own team and so she accepted that MDL was going to be the person taking the lead for the group.

The CEO shaped the outcome quite significantly during that time by adding those two elements; one saying let's make it into a company, and then let's reorganise Pub Com London to enable this to be successful. That was helpful and certainly the outcome worked better as a result of that reshaping. To that point, MDL felt a little constrained by the sense of organisational resource at the time, but those two decisions were not that costly. They were decisions about where to put the emphasis of their time and energy.[60]

The decision, involved not only the decision to go ahead with new investment in APAC, but for that to take the shape of a company, and for Pub Com London to be reorganised into

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[59] Interview with CEO at Pub Com in London, on 23 August, 2010
[60] Interview with MDL at Pub Com in London, on 3 September, 2010

what became Pub Com International with MDL as the President of the newly expanded operation. The two decisions were not brought to a full EC meeting, but went ahead by resolution between CEO and MDL, and each of the direct participants in the relevant decisions. The agreement between MDL and CEO was sufficient for MDL to move forward with the decision. The CEO then presented the decision to the BOD that signed it off.

- The Action Plan

The strategy agreed for 2006 was to take the initial steps towards developing an office during 2006. The initial objectives of the staff were to make specific targets in terms of books and journal sales development, and to develop a proposal for a longer term plan. The action plan was put together in February 2006. From March MDL was travelling to and from APAC and gathering market intelligence on the ground. He recruited the MD for Asia in July 2006, with the office opening in September. It had representation in Beijing a couple of months later, even though this would take much longer to become a fully registered office.

The action plan was an informal set of guidelines that MDL used to begin the work on establishing an APAC entity. The plan outlined initial priorities. At the time, there was still a lot uncertainty about the move, but even so, a set of longer term priorities from 2007 and onwards were also included. The plan outlined the broad shape of what they were trying to do with setting up an APAC office where Pub Com employees would be working, the objectives, and the key posts they agreed upon as the initial staffing of the office.

There were ongoing questions around who was going to be handling the sales force and who was going to be the sales force selling the journals business in the market. That was an existing assessment that needed a resolution, as was recruiting the head of the new regional office, relocating the existing sales manager from the UK to APAC, and recruiting the new head of journal sales. MDL also had to familiarise himself with the local markets and work on getting some of the logistics in place. Those were longer term priorities which needed feed into the work to be done during the year.[61]

The action plan was an outline of what MDL wanted to do in 2006 as part of the initial steps to set up the office. That was followed by starting the work on the journal third party sales force assessment and setting the train for the recruitment process for the MD for the APAC office. Then around mid-March, MDL started travelling out into the region more

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[61] Interview with MDL at Pub Com in London, on 3 September, 2010

frequently, and spending a good deal of the first six-month period in the APAC region attending a whole series of meetings with a wide range of different third parties.

The external consultation included potential agents and distributors, sales parties, customers, publishers with whom Pub Com had existing relationships, lawyers, real estate people, government bodies involved in supporting third parties and the development of business in markets, academics and librarians. It was about contacting those who had a potential bearing on understanding how the business should be developed in the market.

- Building the Decision

In early 2006, MDL started visiting APAC more frequently. He hired the regional MD in July 2006, with an office in Singapore opened in September 2006. BD who moved to Kuala Lumpur (KL) a few months earlier started reporting into Singapore. JD was hired by November 2006, and most of the work was done in 2007 and 2008. The development was supported from the UK. The first phase was about developing APAC presence. A number of corporate projects during 2007 were associated with that issue, including integration of APAC and India. Some of those were completed locally and some from the UK office.

The second issue was about making Pub Com a more global company and there were projects in 2008, which included developing group internal transfer pricing policy, strengthening sales and marketing coordination, and enhancing IT and HR coordination within the group. There were no global management issues in 2009 that affected APAC, with 2010 focusing on building international sales capacity. This included APAC and enabled Pub Com to develop templates, guidelines for use in decisions on adding sales staff, reassess existing strategies in specific markets, enhance the global coordination of inter-company sales channel and develop a strategy for penetration of low price adoption markets.

MD Appointment for NLO

The first thing to do was to recruit a new MD. Pub Com involved recruitment teams on both sides; the UK and a local HK-based recruitment firm. Pub Com gave them the person specification and they produced a number of candidates. MDL spent time interviewing candidates and it was a mix of factors which led him to choose MDA. His rich local market knowledge was one. He had been working in local APAC markets for many years, and had

a cultural understanding of the international business at the same time. He was also an American, who had been working in American and British businesses for many years.

The office had longer term ambitions to do more, but the initial stage was about creating a sales and marketing focused operation. They wanted someone who came out of a direct sales management with a marketing management background and that is what MDA had to offer. He had also been managing teams based around each of the local markets, representing one of the major competitor organisations. MDA had the sort of background that fed into the general sense that he was someone who could do this for Pub Com.[62]

MDA was the key person who they needed, in that area who had experience, running sales teams and offices in APAC, who could educate them on the rest of the decisions that had to be made. MDA also came in with a plan and had a clear vision about what he wanted to do with the office. The first step was concerned with thinking about how to use the resources and where to put the people. The concepts were simple:[63]

> ➢ It is better to have a lean staff HQ and put resources in the field;
> ➢ Resources in the field should be sales staff and the function of the HQ should be to support those sales people; on the ground presence means having direct access to better information in more complex markets;
> ➢ Real growth will be in Northeast Asia and that is where most of the resources should go;
> ➢ It is better to have an internal sales staff than to rely upon third party sales staff;

MDA was hired at the end of August 2006, and at the beginning of September, there was an event which had been prepared for some time. This involved a study tour of China by a high level delegation of western publishers. It was organised by Pub Com's journals partner in the US and it was specifically focused on China. It was an opportunity to go into the region, understand the Chinese market better, and for key senior executives to meet.

MDL took the heads of sales and marketing in the UK and the US, and MDA. It meant that all four of them were there on that tour of China. For MDL, It felt like a significant part of making it clear that they were not trying to shut out the US office from participation in the process. SMD was at the time already doing behind the scenes work on integrating NLO

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[62] Interview with MDL at Pub Com in London, on 3 September, 2010
[63] Interview with MDA at Pub Com in London, on 15 September, 2010

office into the global sales and marketing systems and structure. For him, the tour was a major indication of what the challenges were in APAC, in particular on the journals side.

At that stage he was also more involved in the critique of the APAC budget, and the decisions in terms of where to put the emphasis in the market. This was in addition to dealing with some internal issues in the department in terms of what is a good deal and how to work with local partners. It was a useful learning experience in terms of what is different about China and how different it is to other markets in the region. The process was supported by MDL being there and talking to people in the region and helping the rest of the team to understand the issues Pub Com may need to address in the APAC markets.[64]

Office Location

The appointment of MDA set in train the rest of the work that needed to be done on establishing the NLO office. The original conversation included two potential sites for the APAC headquarters: Hong Kong (HK) and Singapore, but the recruitment of the MD made the search for office location easier. He was based in Singapore and it was unlikely he would move elsewhere. So once they hired MDA, they started to look for appropriate location, and with the external knowledge of what the competitors were doing as well as the expertise of MDA, they selected Singapore as the site for regional headquarters.[65]

Up to that point, MDL had not come to any clear cut reason about the location. There were benefits both ways, neither which would follow if the person was based in Japan, for example. There is HK's geographical proximity to biggest potential markets, and not just China, but also Korea, Japan and Taiwan. HK has a reasonable English language workforce, but there is no complete identity with the Chinese market because one is in the Cantonese speaking area. It is not a seamless relationship to China and HK does not have much of an existing publishing industry or a very large local market for English language materials.

The majority of the publishing industry is based in Singapore, and so there is a lot of expertise in publishing. It means having potential ability to hire in people who know what they are doing from within the industry. Singapore is very strongly established as an import-export market for books, so if a book seller in the Philippines is sourcing all different publishers' books, and getting them consolidated, they are being sent to you from

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[64] Interview with SMD at Pub Com in London, on 2 September, 2010
[65] Interview with COO at Pub Com in London, on 23 August, 2010

Singapore, not HK. So both ways, there were different factors weighing in on the decision. For Pub Com, it was important to understand those factors and how they would impact on the development of the business.[66]

Having lived in Singapore for ten years, MDA was not in favour of relocating. When he became one of the two shortlisted candidates, the conversation about the location stopped. MDL wanted him for the job and keeping him in Singapore was easier, less expensive and less time consuming. The other reasons they later agreed upon were the usual arguments for choosing Singapore as a base over Hong Kong. Firstly, almost all major international publishers have their Asia operations based in Singapore which makes it easier to set up.

Secondly, the Singapore Economic Board works much harder on government's behalf to attract investment in key areas. Pub Com, as a publisher of content, was very attractive to them. They saw potential in creating a journals production base in Singapore, and education is an area they invest heavily in. As a result, they could offer Pub Com a low corporate tax rate. They also gave the company guidelines for attaining even better tax concessions in a three year period if a specific level of growth was reached, including the number of local staff and revenue targets. Lastly, Singapore is equidistant to Northeast Asia and Australia.[67]

Office Space

MDA started looking for an office once he was hired. He had some difficulties finding a space that worked for Pub Com and that was affordable. BD who found out that she would be reporting into the regional headquarters, from KL, helped MDA with the search. With her help, MDA looked at numerous properties, before finding one that was suitable. The space was more expensive, but he wanted a good atmosphere and an anti-corporate ambiance. The space was an old shop house, a traditional building in the heart of financial district. To attract staff, it also had to be near food outlets and the MRT train lines.[68]

MDL and FD were involved in the discussions with MDA who provided them with a shortlist of office spaces that would work for them. BD did not agree with the location because it was not near a post office, or easily accessible, which is not ideal for a heavy books publisher. But, it was the space that was put forward to the EC, that then had a

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[66] Interview with MDL at Pub Com in London, on 3 September, 2010
[67] Interview with MDA at Pub Com in London, on 15 September, 2010
[68] Interview with MDA at Pub Com in London, on 15 September, 2010

discussion about the space. The office was more expensive than envisaged, but in an appropriate location, and so the EC made the decision to invest in that office space.

Pub Com had created a set up scenario in which MDA was able to make the office fully operational. When he needed support or resource the UK office provided it, even though communicating at a distance was difficult. MDL, as President International, was responsible for making the investment decisions and bringing the decisions back to the EC. FD was very involved in setting up the support from the financial and operations point of view. All these projects were included in the annual operating plan and monitored by MDL.

At this stage the team also needed a lot of legal support, so Pub Com's general counsel worked closely on opening the office in Singapore, and later in Beijing. To consider were legal ramifications such as the Pub Com brand and trade marking. It was very critical to register the business as a Singapore-based company and they were incorporated in September 2006, as Pub Com APAC Pte Ltd. That would later come to haunt them, however, because when they tried to register the China business in 2008, they had a set of publications that had to go through the censorship office. For that, they had to create another holding company, which ended up as a separate topic.[69]

<u>Hiring Staff</u>

BD helped MDA with the recruitment of skeletal staff in the region. The first hires included JD and the Finance manager to handle all the financials at local level. JD was hired in January 2007 and her expertise and knowledge in the journal business was critical since it made up for MDA not having that expertise. She was put in charge of the journal sales force, representatives visiting libraries to sell print, e-journals, consortia deals and e-books. BD was in charge of trade and textbook sales force but handling it from KL. This included representatives selling books in print format, and to trade customers, who then sell it on to the libraries. She was given the title of a Director, but her role did not change as a sales manager involved in strategy and managing the direction of the company in Asia from KL.

FD was involved in choosing the Finance manager and she delegated the decision to one of her staff who was MDA's main contact with the UK finance team for a long time. He was in regular contact with the Finance manager and handled daily requests and issues, being one of first visitors in the region. But the local position of the Finance manager did not turn out

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[69] Interview with MDA at Pub Com in London, on 15 September, 2010

to be right for the needs of the business. As the needs of the office shifted from being a start up to a fully operational and growing business, the requirements shifted from needing a more general set up person to a qualified finance director level person.

The person they hired was great at the former, but not qualified at the latter. The mistake MDA made was not realising that one person cannot handle both roles. So when the second finance person came in to replace the first, they erred in hiring the FDA level person who was overqualified to handle the daily tasks of running the operation of that size. At one point the team had three finance people in an office of twenty people. They had a finance director, who helped to establish the business in China, get grants from the Singapore government, plan the budgets, and help to execute the budget sessions with the UK. They had a finance manager who could handle the daily tasks, and then a very low level accountant who could collect receipts and make payments. Now there is a FDA who handles high level strategic issues, and a low level person who handles daily accounts.[70]

The recruitment process was not the best. Poor staff choices were made as a result of not understanding regional differences which led to a high staff turnover. The basic issues were around the interview process in different cultures, countries and languages. Learning how to interview somebody from Singapore, or China, or other local markets, they found that each culture approach interview questions in a different way. BD sought advice from friends and associates in the industry, about the process and core interview questions. MDA had an understanding, as he worked in Japan and China for a long time. But even his technique was more geared towards Japanese style, which does not work in APAC. He had more skill in that area than BD, but in the end both struggled with the interview process and finding the right people. It took them a few years to get it right.[71]

Sales Force

In the summer of 2006, the initial plan outlined a proposal to find third party representation in the region who would handle journal sales, which turned into a mixed model. At the point of the initial decision, they believed that they were not in a position to go ahead and represent their own journal sales. What they did was to put in place somebody to act as a channel sales manager, who would also oversee Pub Com's third parties. This decision on the sales force was revisited after MDA was hired. Once MDL got into a detailed

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[70] Interview with MDA at Pub Com in London, on 15 September, 2010
[71] Interview with BD at Pub Com in London, on 10 September, 2010

conversation with MDA about the overall plan, MDA started to advocate, based on his expertise and knowledge that Pub Com would be in a position to move ahead with taking on its own sales force. The third parties they had been assessing to handle sales representation for them were going to be a part of that, as oppose to handling it.[72]

What they ultimately agreed upon to do was a mixed sales model. It meant they would take on certain key markets and handle them directly, and that they would use a third party for restricted group of markets that were not in that initial group of core markets. So, instead of doing what was originally envisaged - hiring a journals' channel sales manager, and then using a third party to represent them across the markets - they decided to hire a channel sales manager and three other posts in China, Japan, and Southeast Asia. The decision was to then handle Taiwan, Korea and Australia through a third party.

That was a key shift of direction with significant resource implications. It also led to the creation of the China office, and hiring own sales representatives rather than using a third party. The aim was to get to a point where they would have a capacity to do it. But until that point they felt uncertain about whether it was going to be a sensible start. Also, one cannot hire people to do the work unless they are in a position to manage them effectively. It was only once they had zeroed in on the person who they believed actually had the right capacity to provide that oversight (JD) that they started thinking, that it could be done.[73]

Pricing and Deals

Once JD joined, her key focus was on growing consortia deals in the region. She was trying to set up pricing proposal for each Pub Com library consortia, and that took up most of her time. In 2007, she focused primarily on getting that revenue and some templates were used from London to put those forward. At the time, she had one manager in China and they felt that they needed to recruit somebody else at a subsequent point. A lot of work had to be done, and a decision was made to hire another head count in China in that year.[74]

The focus for 2007 was to acquire sales which were initially added to the total sales in the UK. The way the library market works is that in 2007, publishers work for 2008 sales. The revenue comes in the year after. Sales only started to be counted as NLO sales once the transfer pricing agreed. It took a while to work out the transfer pricing rules, but once

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[72] Interview with MDL at Pub Com in London, on 3 September, 2010
[73] Interview with MDL at Pub Com in London, on 3 September, 2010
[74] Interview with JD at Pub Com in London, on 10 September, 2010

agreed they were applied retrospectively. This was true of both, textbook pricing and consortia deals and SMD and his team were providing guidance and support from the UK.

The pricing on deals was agreed in collaboration with SMD and his team in the London office. The issue was how to manage at a distance, particularly with the new head of journal sales in APAC, the standards around deals, because support and licensing were done from London. The question was how to make sure that they were doing deals that were both, the right deals for the business in terms of value, and the business model, and making sure that they had the ability in the back office to support those deals. SMD was working out the complexity of that at a distance, which turned out to be a big challenge for Pub Com.[75]

Further Openings

The NLO office was officially opened in September 2006 with further openings on the horizon. On the study tour of China in 2006, the team made some contacts with CX, a Chinese consortium, and started to build relationships in the country. Pub Com ended up doing a deal with CX which led to the view that they need to set up. APAC and Europe mainly have an opt in model, so once a head agreement is signed, it is necessary to go around institution by institution, and ask each to be part of the model The agreement with CX meant having capability on the ground for people to buy into that deal.[76]

In each market, they would firstly create a legal entity and then open an office. In a country where there was one staff member, they could either work at home or work in a service office. China was the first country that had a local representative office outside KL. Tokyo was the second. MDA wanted to keep the cost down, and felt that Pub Com should put the money and resources into the field, rather than having the best office. He had an understanding of how to set up businesses in APAC and what type of resourcing was needed; he had a lot of exposure to that at PCP so was able to make those decisions.

As the team plan for staff and sales revenue, they also have to look at the tax laws and requirements of each office. Do they need to have a registered office, a branch, or a full-fledged office? These questions confront them each time. China was the first case where a decision had to be made about whether it was going to be a representative, a branch or a full-fledged office. At the time, there were two people, so Pub Com APAC needed a

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[75] Interview with SMD at Pub Com in London, on 2 September, 2010
[76] Interview with SMD at Pub Com in London, on 2 September, 2010

physical office in the local market. The team had to make a decision of whether this was going to benefit them and as a result, by early 2008 an office was opened in China.[77]

JD's journals team is primarily based in the Beijing office, but BD and MDA are also involved in the decision making on new openings, before they discuss it with finance. It is a collective decision and there are three cases: the finance, the consortia library sales director and the books sales director. Once they agree on a plan with MDA, it is discussed with the UK office. Apart from requirements of physical space, they also have to look at what benefits there are from the tax standpoint? Or, by having a registered office, what leverage is there in terms of sales and could business be done in that market.

Pub Com now has an office in Beijing, and virtual offices in South Korea, in Taiwan, Taipei, and Melbourne. JD relies on the cost-benefit analysis. If the office needs to be registered, does it make financial sense? That is a major consideration when discussing opening up offices. The team decided to have a registered office in Korea, and Taiwan, and Australia. But, since the sales representatives are out of the office most of the time, a physical office per se was not a requirement in those markets. The local objectives, the tax benefits, the cost analysis, the financial revenue and the profit and loss projections are all important.[78]

All the analysis is used to make an informed decision, by involving everybody that is required in the process. In Australia for example, there would be tax benefits, if they have an office. The finance person is consulted on the question of benefits of opening a representative office. Everything is quantifiable, in terms of numbers. A business case is set out and presented to the rest of the senior management team. It is discussed with the UK team, that approve it and the APAC team then goes ahead with opening an office.[79]

Government Approval

The entry into Singapore was not a difficult one. The government supports business development and welcomes foreign investment. In China, it was a different story. Pub Com had people there in 2007, but a formal representative office was only signed off in 2009. It took a long time to set up. Chinese government is very protective of information that is not right bringing into the country and because Pub Com are a social science publisher, the government was concerned about the type of articles Pub Com would be

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[77] Interview with JD at Pub Com in London, on 10 September, 2010
[78] Interview with JD at Pub Com in London, on 10 September, 2010
[79] Interview with JD at Pub Com in London, on 10 September, 2010

publishing and that it was not detrimental to China. The local laws and regulations prolonged the approval process of establishing a fully representative office in Beijing.

China was always on the agenda, but also required full legal support to ensure compliance with local laws. Early in the process, the CEO gave MDA and MDL contacts of two law firms and asked them to choose one to help with the move into China. He was not comfortable hiring a boutique firm, as suggested by MDA, but relying on one of the major law firms in the world. He went through a detailed interview process with PX and then again with MX and there were a couple of months in which he felt he was an expert on what can and cannot be done in China with establishing an office. It also enabled him to speak about the issue intelligently with Pub Com's board members.[80]

China was a difficulty that involved the most senior executives, including the CEO, to ensure the entry into the market was correct and would not come back to haunt them at a later date. It took a long time to get the approval and no one at Pub Com was quite aware of how long the approval process within China was going to take, and how long the staff would then have to work in an office, without being officially registered. A physical space in form of a service office with two plus staff was set up only in 2008. But, a legally valid registered representative office in full compliance with Chinese laws was opened in 2009.

- Supporting the decision

Local Level Support

MDA's role gradually shifted from doing everything, to looking at the overall business and further expansion in the region. He was managing NLO with the help of his direct reports BD and JD. It was a newly established team, so an adjustment process for all. The office development was, however, hampered by a number of issues that surfaced at ground level. The team had strong, local knowledge of the market, but despite the initial benefits of having MDA, his appointment proved to be problematic for the whole team.

He was not adapting to business models of Pub Com but relying on previous knowledge from other publishers. His poor working relationship with local staff and the dismissal of one of the staff caused tensions. He had great difficulty understanding the key elements of the journals business and therefore, what resources were essential and which were not. It

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[80] Interview with CEO at Pub Com in London, on 23 August, 2010

resulted in over-resourcing the team. JD, who was an expert in the journals business, found it difficult to implement some of the decisions and led by MDA who was making them.

There were some frictions between MDA and JD on a number of occasions, which boiled down to their differences of approach to office openings and strong personalities. His approach was to open an office in every country all at once, whereas JD pushed for a more gradual, phasing-out approach. MDA also made a number of staffing mistakes that caused resentment amongst his senor staff and a dislike for his overall management style. At the same time, he felt that JD and BD could have pushed things more at key decision points.

MDL tried to help by giving MDA tutorials, but it was not enough to prevent some issues from surfacing. He was not familiar with Pub Com's culture and felt that two months at the London office at the beginning would have been invaluable. However, it took over six months to decide on APAC and with a new journal's sales season was fast approaching, it was necessary to set up quickly or risk losing the following year's revenue.

Pub Com's local presence meant that handling deals was easier as the team was able to talk to customers directly. The market information, including the sales, only affirmed the scale of the sales opportunity in the region. Not even the CEO could have foreseen the sales that were opening up as the business began to develop. MDA had faith in knowing that the sales would grow, knowing it would all work, and he felt people picked up on that.

The office was supported at a distance from the UK, and there were discussions on its development in budget meetings. MDA was right for the job in the early stages, but then MDL started to lose confidence in his ability to manage people and his maturity for the role. As a result, MDA was replaced by TX in April 2010. CEO and MDL made this decision together with many discussions on MDA's performance over a period of time.[81]

UK Support for NLO Office

Most of the conversations between NLO and the UK in the beginning went through MDL. The UK office outlined a brief P&L and FD who was involved in the initial set up from the financial side, only become more involved after the first year, when MDA and FD started to have weekly calls. These calls were about NLO finance staff, and the set up of the Beijing

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[81] Interview with CEO at Pub Com in London, on 23 August, 2010

representative office and the Singapore-based holding company needed to create it. But MDA had no contact with US for daily matters. All discussion went through London.[82]

The EC tracked progress and made some of the larger decisions on opening new representative offices or adding headcount in the region. US were not involved, other than to provide marketing support for sales staff on the journals side. The support was invaluable and over time NLO was given more autonomy, when sales growth started to show and the team gained more confidence in the decision to expand into the region. By 2010, JD felt that the UK needed to treat NLO more as an equal to the other two, as the local team knows the market and how to develop the business in the region.[83]

The local marketing support requirements became clearer once MDA was hired. Frequent conversations and formal meetings helped to clarify the lines of responsibility and review those as APAC developed its own marketing capability. Pub Com had some knowledge of APAC and TX had a lot of knowledge about the market through his international sales experience. But, it was MDA's knowledge which helped the EC team to understand what needed to be done in each territory and how they need to handle the region.

It was SMD's responsibility to figure out how to support marketing for APAC, as there was little marketing resource in place. Pub Com had different ways for marketing at different times, either by territory ownership or product ownership. It was an under-sculpted territory and not a very coordinated activity. Therefore, starting to tidy up that complexity was one thing to address, and the second thing was around consortia deals in the region. Some journal sales deals were already done in those territories and at the time the issue got caught up in discussions on how to renegotiate those deals.[84]

Table 4.4 lists the items on the Annual Operating Plan related to APAC development and managed by COO in consultation with EC members. SMD was also very involved but did not have experience of the region. He was trying to understand the complexity, with the knowledge that they have unclear divisions of responsibilities which can be difficult to manage. Helping SMD was SMU, his counterpart in the US who was also managing Pub Com's relationships with strategic partners. The local pricing was handled out of the UK and gaining agreement between the offices on what made a good deal was not easy.

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[82] Interview with MDA at Pub Com in London, on 15 September, 2010
[83] Interview with JD at Pub Com in London, on 10 September, 2010
[84] Interview with SMD at Pub Com in London, on 2 September, 2010

Developing APAC Presence – 2007

Support from the Corporate Centre

- Build sales capacity and brand visibility Q1 – 2007
  - Complete and manage library and consortia sales force Q1-2
  - Assess performance of book sales by territory Q2-3
  - Develop APAC marketing capability Q2-3
  - Develop and implement brand building plan for AP Q3-4
  - Aid set up of new sales team and align with UK/US (SMD) Q1-4

- Integration of India and APAC Q1 - 2007
  - Review tax implications of setting up offices in AP (FD, FDU, MDA) Q1-4
  - Monthly reporting systems for Singapore (FD, MDA) Q1-3
  - Finalise transfer pricing for AP (FD, FDU) Q1-4
  - Develop consolidation and reporting packages so that all of Asia can be managed and monitored against budget as subsidiaries of London (FD, MDA)

- Product strategies Q1 – 2007
  - Review editorial boards so better AP rep (PDU, PD, MDA) Q1-3
  - Increase links with Societies in APAC to increase content (MDA) Q3-4
  - Assess options for delivering author support services (MDA) Q3-4
  - Ensure co-ord. sales/rights/licensing approach to China (MDL) Q1-3

Table 4.4: NLO – Support from the Corporate Centre

At the same time as building the APAC, Pub Com was building the sales capacity in Europe. Effort was also going into gearing up customer services to move away from a business group that supported a subscription model into being a group which had account managers and the capabilities to support the sales model and package sales. This was a very different business practice.   The team was therefore working on opening up a new market and opening a new business practice and building a new sales approach at corporate level.

Customer services reported into Sales and Marketing. Decisions had to be made on the structure, how much resource to put in and what to do in terms of service standards. There was a higher expectation for an immediate response than in Europe. The question was one of deciding if they need to meet certain requirements, are there things they can put off, does it matter if there is a back log of processing responses. It was an internal issue, so there were discussions on the appropriate level of resourcing and what structure should be put in place to support new key account teams; what is the relationship between customer services and sales and who should be doing what.[85]

The key points on the marketing and sales support from London were as follows:

> Linking the new global sales process and local customer services;
> Integrating NLO into that process, including handling sales deals;
> Data management feed from NLO to corporate systems;
> Resolving issues around local editions and (textbook) pricing;
> Allocating support responsibilities to the UK and US teams;

The support for NLO involved the development of better management processes as an oversight from the UK sales teams. For drawing up consortia deals in the region, there were templates that specified the shape of those deals. The team would check the key points and identify if there were things outside normal practices that needed to be addressed. Attuning relationships in sales and customer services was not just about APAC, but the operation highlighted that expectations were higher in terms of service levels. SMD and his team had to work out the appropriate levels of staffing and the types of skills that were needed, and then what should the relationship be between an evolving customer service and key accounts group instead of having sales teams do all the work. It was an iterative process and the changes eventually got them into a better shape.[86]

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[85] Interview with SMD at Pub Com in London, on 2 September, 2010
[86] Interview with SMD at Pub Com in London, on 2 September, 2010

IV.   Outcomes

It took Pub Com a long time to set up the office. The office was set up, launched, and discussed it, but no one felt it was an established and grounded operation for a couple of years. MDA had faith it would succeed, but a lot of issues had to be resolved. These included high staff turnover and poor communication with the UK at time. Only once the sales started to show growth was there a wider interest within the group in the new entity.

The importance of being in the market and meeting with people proved to be invaluable and there were a number of actions stemming from the development of the NLO office. It did not only include better overall sales and marketing coordination at corporate level. It led to improvement of process and tools for decision making. MDL developed templates and guidelines for adding new staff in the region. The APAC team got very good at making pitches for new office openings in the local markets. But JD also felt that NLO needs to become a publisher relatively quickly, so that it can publish local material and journals. Otherwise, it would become difficult to acquire local titles to sell in the region.[87]

There was a need to reassess existing strategy in specific markets, which was taken on by TX, BD and JD. The decision on moving selected territories from third party to direct representation was taken on board by all, with the direct sales management in the territories being overseen by JD. Meanwhile, BD was tasked with developing the strategy for penetration of low price adoption markets. SMD continued to enhance global coordination of the intercompany sales channel with the help of TX. One of the key objectives was to strengthen Pub Com's ability to sell CQ press in international markets.

The global restructuring at the beginning of 2010 was a shift in the way Pub Com was managed as a company. It clarified lines of responsibilities across the board. The CEO eliminated some executive positions, and consolidated some departments under one individual. For the first time in forty years, Pub Com had a truly global organisational chart. There were people in the US reporting into MDL, for example, the IT department in the UK reporting into COO and the production department the UK reporting into the US.

There were four or five significant factors that led to the restructure, but APAC was one of those factors. The CEO wanted to consolidate all the sales under one individual, MDL, which he did as an extension of what was started with APAC. What he saw throughout the

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[87] Interview with JD at Pub Com in London, on 10 September, 2010

process of developing and integrating APAC into Pub Com was a strong focus on the detail, and selling to the customers and meeting their expectations. The sales and growth in APAC indicated that the region could be the primary thing that fuels growth at Pub Com in the coming decade. As a result, the CEO conceptually got to a point where he would approve any request from MDL related to expansion into APAC. It went from being a secondary level to a primary level strategy and more than a source of incremental sales.[88]

The move into APAC was a lesson in thinking boldly about the scope of organisational change that they could take on, and it was a lesson that Pub Com needs to be less risk averse. MDA had not done any business outside Asia but the set up was still a lesson that as a strategy for Asia, there is no Asia. It is a number of countries that have some similarities, and many more points of difference. Each market has to be looked at and developed as a separate entity. The best strategy for succeeding in an Asian business is to put resources into very good people at a local level that will eventually drive the business.[89]

At the same time, MD of Pub Com India was retiring and he owned sixty percent of the company. Pub Com bought those shares back, instead of selling Pub Com India. That proved to be very successful and with the success of NLO it gave the board the confidence that the management team was making the right decisions, and thinking about future markets. But, Pub Com continues to wrestle with the increased complexity of the business as a result of more sites, more entities, more locations, and time zone differences.

The company has implemented some big organisational changes since setting up NLO in the awareness that such changes were managed successfully in 2006. The global restructuring in 2010 was informed by many of the same issues that had significant consequences. As a decision making process, it illustrated that Pub Com had good models in place for making significant strategic decisions. They continue to use the same broad structure and the EC meetings as a forum in which to resolve big strategic direction issues at Pub Com.[90]

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[88] Interview with CEO at Pub Com in London, on 23 August, 2010
[89] Interview with MDA at Pub Com in London, on 15 September, 2010
[90] Interview with MDL at Pub Com in London, on 3 September, 2010

4.4. Case Summaries

Both decision cases are comprised of coming up with a concept, research and assessment, business proposal, decision approval, project planning activities (e.g. allocating resources), and building the decision by working on its parts. These are supported by senior managers removing obstacles to decision making. Each strategic decision was integrated into the organisation incrementally along its critical path. The integration included new responsibilities for sales teams, marketing, IT systems support and fine-tuning existing practices. The length of each episode varied and some do not have an end point.

NPD – Decision Episodes

➢ NPD Idea / Initial Concept

PD came up with the initial idea and ED did the work to turn the idea into an initial proposal. Both relied on experience of working at Pub Com and expertise in areas of academic publishing. This was done in the context of the RX theme and what Pub Com intended to do with the RX product. An external consultant was brought in at this early stage and helped ED to develop the proposal. The document was put forward to internal committees for review, recommendations and approval to proceed to the next step.

The concept was turned into a full decision through the strategic planning process. This ongoing process underlies the generation of all strategic decisions at Pub Com. NPD was generated by the EC, and supported by internal committees that made recommendations along the way. Most key decision makers (CEO, COO, MDL, FD), including CHA and BOD members, supported the decision, even before the formal research and assessment phase. The main focus was therefore on proving the business case and allocating resources to it.

➢ Market Research and Assessment

The initial concept passed through several committee reviews. It was approved by the CSM committee and then ED worked on its development with SM who led the market research phase. As part of that, SM talked to other managers in the company, as well as customers, while researching competitors' offerings for the similar type of product. This was a major piece of the NPD proposal as it informed most product development work in the implementation phase. The research was made up of a number of phases and the entire piece was structured by SM who was also managing the proposal development.

LD and FD were advising SM on different parts of the proposal and ensuring that it was logical and that it covered the questions that the EC and the BOD would want answered before approving it. The proposal was reviewed by a number of committees, first as a business case and then as a detailed proposal. Key senior managers all had an input into different parts of the proposal. The team draw upon knowledge from various sources and during this phase, a financial investment was also approved by the EC members.

➢ Decision Approval

There was some resistance to the NPD by PDU, but CHA, CEO and other key decision makers wanted to do it, so it was only a minor obstacle. The proposal was presented by PD to the rest of the EC a couple of months after the financial investment was made. The meeting in February 2009 was the formal green light, even though other business units and teams across the organisation were already invested in the project to some extent (such as the technology and back office teams who already had resources allocated to it).

PD was working on getting buy in across the UK and the US offices, with some help from other senior managers, such as SM and LD, who were not decision markers, but important influencers. There were lots of meetings and offline conversations to make sure the key individuals were committed to the project. This was being done as the market research was taking place. A business proposal was put together by SM with the help of other senior managers who influenced the content of the proposal, or approved the decision.

➢ Project Plan

The project had senior executive sponsors in both the UK and the US offices. PD was responsible for the UK and LD for the US. SM created a project plan and structured the teams with representative from different areas in each team. An overall SC was set up to approve key decisions. Each team was working on a part of NPD (back office, editorial, technology, etc.). It was the first time that a project was structured to that level of detail at Pub Com so it was difficult for teams to work to deadlines.

COO was chairing the SC. There were a lot of back office issues and as someone most knowledgeable about that area of the business, the teams were accountable to her. SM was managing the implementation phase, updating teams, setting up the agendas, attending meetings in most teams and keeping the senior people informed. When necessary, ED or

PD would get involved. PD was responsible for clearing space within which project management could take place. He was meeting with sales teams informally, and continuing to gain buy in from both offices. This was informal. FD chaired the Back Office team, TD the Technology team, ED the Editorial team, with other teams based in both locations.

> Vendor Selection

The process that led to the selection of the technology vendor took place soon after the decision was given the green light. It involved SM, LD and TD who assessed the strengths and weaknesses of each vendor, the vendors giving presentations and the NPD team making recommendations to internal committees. There were a couple of candidates, but Pub Com decided to work with an existing vendor in the end. OSC made this decision and put it forward to the EC and the SC that was approving all the decisions made by project teams. The vendor then worked with the technology team to develop the product.

> Content Selection

There were criteria which the Editorial team had used before to select the content. The criteria were included in the initial proposal in March 2008. ED and her team were responsible for selecting the content, which was split equally between the UK and the US titles. The process also involved agreeing definitions between the two offices, which were using different methods to define the content in local markets.

The content was signed off by the Head of Books in the US and ED in the UK. Six hundred books and reference material were selected for NPD that were top-selling and popular titles at Pub Com. It also had to be approved by the Permissions Group who needed to clear all the publication titles for digital upload. After the content was cleared, it was sent to a digitisation company, and uploaded in batches online by TD and the Technology team.

> Ontology Development

SM worked with the Editorial team and led the conversations with the market to define how the ontology of terms should look like. ED knew the content and PX, an RX editor, knew the field so the two were able to come up with a solid taxonomy. But, no one had experience of developing ontology. The team had to decide what terms to use, with ED working out the structure and narrowing the scope on the inclusions and exclusion of terms. It turned out to be a manual in-house process.

All the work that was done was based on Pub Com's experience of RX and mainly drawing upon knowledge in the UK. Ontology was a critical piece of the puzzle as the whole platform development depended on the right selection of terms. It is what makes the platform work and what holds it together. TD was involved at this stage and was responsible for getting the concept into a technical format that works. It was an iterative process with many starts and stops between Editorial and Technology teams.

➤ Platform Development

TD was leading this piece and had contact (primarily) with the Back Office and Editorial teams during the development. The Technology team was also writing technical specification in collaboration with SM after the team was given the approval to develop the platform. The development was an iterative process that involved the external vendor and which required an integration of content, functionality and ontology to make it work.

TD was using his experience and expertise in the area, but the team fell short of qualified people. Additional resourcing had to be added as a result. The Technology team never worked from scratch to such an extent, so a lot of things were worked out along the way. It also required a lot of work around quality and assurance testing. The platform development was going on as other decisions were being made and other NPD parts were being together and influencing and being influenced by what the technology can do.

➤ Business Model

This was one of the critical decisions that carried over into the implementation phase and was finalised by the SC. The main decision was around whether NPD would operate on a subscription or a purchase model. Few were keen to go with the subscription model since it generates ongoing revenue and Pub Com has seen profits on the journals side. But the purchase requirements of the UK and the US vary, with different types of budgets. The feedback from the sales team indicated that there had to be two options.

LD was investigating different types of business models, liaising with the US team, and explaining the difficulties associated with an alternative model from the technical side. At the same time, the requirements of the librarians meant that sometimes they just want the content, so that also pushed in the direction of a dual model. The decision was made to go with a subscription model in the end, but offering customer a purchase option as well. It

was based on a combination of company wanting ongoing revenue, what was technically possible, the expertise of some managers and what the libraries wanted in the end.

> Pricing and Revenue Allocation

Sales teams had input into pricing and the Back Office team was involved in the decision making. FD used competitor benchmarking to decide how much it was about the value of the content versus the platform. The revenue allocation and recognition were decisions made and agreed by FD and FDU, in the US. They had input from an accountancy firm on how revenue should be allocated, and so that external knowledge also influenced the decision. The product was priced due to positive feedback from the library market that was willing to pay more and this insight was gained in the implementation phase.

> Back Office Support

The back office places limitations in terms of what the product looks like in the end and how it is technically supported. This piece was headed by FD who also did revenue allocation. The team tried to put in some standardisation as it was not possible to cater for every need in the library market, especially in terms of purchasing content and subscriptions. A project manager was brought on board to help the Back Office team. But a lot of work had to be done to ensure that the back-end processing for NPD was integrated into the system that supports other products at Pub Com at the same time.

> Product Launch

The work of all senior managers and project teams fed into a trial product. By the time of the trial launch, the team was still getting user feedback and with limited access, Pub Com allowed a select group of users to test the product before it was fully launched. The improvements to what was initially launched were continuous, and there was no end point. At the time of launch, there were still some key decisions to be made around the sales strategy, but the main piece was completed by this point.

NLO – Decision Episodes

➢ NLO Idea / Initial Concept

The expansion into APAC was discussed internally over a long period of time. Pub Com did not have a presence in the region as most of its competitors. It was late to the market and many authors and partners wanted to see some local representation. The basic idea about an APAC entity evolved informally within Pub Com, by senior executives observing market shifts and growth in the region, but no one had any idea what to do for a long time. At this point none of the EC members, including the CEO, had any experience of working in APAC, so that was a challenge in terms of how best to approach market entry.

It was agreed that MDL would take the concept on and drive it forward. This was following informal conversations with PD and discussions with the EC. The move was supported by the EC and the BOD. The decision was made easier with the knowledge that the region was generating sales for Pub Com. BD was in the market and her decision to re-locate was a personal one, but fitting in well with the strategic direction that Pub Com was set on at that point. So, it was a combination of a long running conversation around establishing presence in the region and having someone on the ground to support the expansion.

➢ Market Research and Analysis

The CEO requested a full scale study of the opportunity following an EC meeting and gave the team guidelines in terms of approach to entry. The decision gained buy-in from those who were critical to approving it. There was also input from various senior managers in terms of advice, but the initial business case was put together by MDL and PDU. Both were working on the analysis, with PDU receiving some help from an external consultant. The analysis was based on internal assessment of what they could do with NLO. The market information and sales figures therefore informed the decision, but did not make it.

➢ Decision Approval

The outcome of the analysis was a discussion paper and a business case for the expansion that was approved. At this stage the approval was a go-ahead to proceed with the next steps and recruit a new MD. This meant that the team still had to decide what type of office it will be and whether the new entity would be reporting into London or California.

Following an EC meeting that approve NLO expansion, CEO and MDL informally decided that it will be a sales and marketing office and that it will report into London.

Both decisions were led by the CEO with the detail left to MDL to work out and implement in the region. The CEO was gaining buy-in from individual BOD members offline, so by the time it came to present the case to the BOD it was just a formality. This is the case with most decisions at Pub Com. Rarely is a major decision brought to the boardroom and not agreed by every member on a one-to-one basis beforehand.

➢ Type of Office

There were three options and the CEO was set on the more aggressive option. The decision was to make APAC a sales and marketing branch of Pub Com, instead of a representative office or a separate management structure, with costs financed by the UK or the US. This decision was not made in a formal meeting but informally between the CEO and MDL, following an EC meeting where it was agreed to go ahead and establish an office in APAC. This was in addition to a representative office in KL that was managed by BD.

➢ Restructuring

This decision was up to the CEO and there were people in both offices who wanted to oversee the development of APAC. At the time, there was more enthusiasm in London, and as US is quite myopic and does not need other regions to grow, the CEO felt there would be more commitment from the London team. It made sense for Pub Com to grow from that base, given the existing links with a regional base in India. As a result, MDL was made the head of international sales and FD and PD were made his deputies. There was no change to the reporting structure in the US, until the global restructuring in 2010.

➢ Action Plan

MDL drew up an action plan with some initial priorities and started travelling to and from APAC, gathering market intelligence on the ground and talking to various people in the market. Meanwhile, the CEO was approving the decisions made by MDL. MDL had an action plan, but MDA also had his own plan about how to implement the decision. MDA was an advocate for having people in the field selling instead of having a nice office. So there were two plans about how to do things and some changes that flowed from it.

> ➤ MD Appointment

The first thing was to hire an MD. BD, who was already in the region, was consulted, and local recruitment was also involved in the process. MDA was chosen for his experience and sales and marketing expertise he acquired whilst working for another publisher in the region.   It was only at this stage that BD was made aware of larger scale plans and ended up reporting into MDA and helping him set up the new office. BD's contract became Singapore-based, but she continued to work from her sales office in Malaysia.

Once he was appointed, MDA was working on the office set up, but without much knowledge of Pub Com culture. This influenced some of his decisions in a negative way, for example, ideas not fitting in with the existing organisational practice, and management style being much more liberal than Pub Com was used to at the time. Eventually, a few years down the line, MDA was replaced, as managers at corporate level lost confidence in him to manage staff at local level. But during those initial set-up stages, MDA was pivotal to the whole process and the local decisions that were approved by the EC from the UK.

> ➤ Office Location

Singapore was selected as the main regional office. The decision was influenced by the appointment of MDA who was based in the country.   There were also a number of standard reasons for selecting Singapore as a base and an entry point into the regional market; such as, support from the government who want to grow business in the country, and who offer lower corporate tax rates, its English-speaking workforce and expertise in publishing, which as an industry is more developed that in other regional locations.

BD did some market analysis for MDL and it was mainly Singapore and HK they were comparing in the early stages of the process. The decision was made easier by MDA being in the country where the new office was set up in the end.   KL was never going to be the main base, as CEO already knew that KL is not a point of entry into APAC. China was always a target, but not a stepping stone, as it is very difficult to get approval from the government to open an office in the country.

> ➤ Office Space

MDA and BD were responsible for finding new office space with the financial decisions approved by MDL and FD from London. BD helped to select an office that matched Pub

Com's style. COO was providing IT support from the US office. However, the US was not very involved in creating the NLO entity, apart from SMU working with SMD on marketing issues and integrating NLO into the global sales and marketing structure. The integration of a new office into the corporate organisation was a global challenge that required the involvement of both offices and it took a long time to resolve.

➢ Hiring Staff

JD was the first major hire and an important one. MDA had no understanding of the journals business, which JD brought to the team. She also helped with further office openings, and writing pricing proposals for the library consortia deals in the region. JD had good knowledge of the library market, as well as finance which she acquired in previous roles.   The finance person that was initially hired was not qualified to deal with big financial decisions and a decision was to hire two new people; one was responsible for daily accounting and the other for strategic side and working with corporate finance in the UK.

MDA also hired across levels instead of letting JD and BD hire own staff. This caused some intra-group issues at senior level. Each had some understanding of individual markets, but it was not sufficient to deal with cross-market recruitment.   BD found that interviewing candidates varies by market, and even though they had market knowledge, it did not make the recruitment process easier. As a result, a lot of bad recruitment decisions were made along the way resulting in high staff turnover. It took the team years to get it right.

➢ Sales Force

The original intention was to have third party representation in the region and not rely on own sales force to acquire new deals. However, through conversations with MDA, it emerged that Pub Com was capable to grow in the region by putting own sales force into the field. The significant change in the approach meant that key offices in APAC were relying on own sales force, and smaller markets were relying on third party representation. This change was influenced by MDA's knowledge and experience in the market.

➢ Pricing and Deals

SMD and SMU were working on integrating NLO into the global structure. A few things were running in parallel, such as opening of the new market, creating a new business practice and developing the sales operation. The marketing support for NLO was done

from a distance. There was a disconnection between what SMD was doing in the UK, and NLO developing its own marketing capability on the ground. Most of the communication between the corporate centre and the local office was conducted via the MDL.

NLO was getting guidance from London on how the pricing deals should look like, so again SMD was involved at a distance. Moving away from subscription to consortia deals, and changes in the sales model, and what made a good deal, led to tensions between the UK and the US offices. One of the key issues that had to be resolved was local textbook pricing (which varies by region). This was addressed in the formulation, mistakes were made, and some decisions were carried over and finalised in the implementation phase.

➤ Further Openings

There was a representative in China only a few months after the Singapore office was opened. A full office was officially opened the following year. It was fully registered a year after that, as it took a long time to get government approval. An important consortia deal triggered the opening of an office in China. This was done directly instead of using CLX as a third party that was used for other deals at Pub Com. The consortia deal was an opt-in model which meant that the sales force had to get each institution to opt in to the deal.

In terms of representative offices, MDA wanted to expand rapidly in the region, but JD intervened relying on her experience in the market and adopting a cost-benefit approach to making decisions. Instead of opening all the representative offices at once, as MDA had intended, the strategy involved phasing offices out gradually to cover markets, such as Japan and Taiwan. During that time, there were ongoing discussions with the UK office. The corporate centre was involved at key stages of decision making on each of the openings.

➤ Government Approval

Entry into Singapore was easy, but Beijing was difficult, as the Chinese are very conservative in terms of what content gets distributed in the country. There were a lot of regulatory hurdles to get through in China, whereas Singapore was more encouraging and made the process of opening the new office easy. The process lasted at least a couple of years before it was finalised and some key steps were taken in reverse of how they are normally done. There were sales representatives in the market, and the journals team wanted to proceed as quickly as possible in order acquire sales that were available to them at the time.

> ➢ Customer Services

SMD was working on developing the local customer services team from London and learning about the higher expectations in APAC markets. In the process, he was mainly relying on good business practice skills as he only had limited knowledge of the local market. The decision on resourcing the customer services team was based on corporate level decision making in the UK office. The customer services that were set up to support APAC operations, also led to improvements of customer services at corporate level.

> ➢ Corporate Centre Support

At the same time, decisions had to be made on how to integrate the local office into the corporate sales and marketing entity. Most of the initial conversations were via MDL and FD who helped to set up the office from the financial side. Once MDA was hired, SMD got more involved and decisions on how to support APAC were made in collaboration with his US counterpart. This included creation of a link between global sales process and local customer service teams, data management feed from NLO to corporate systems and resolution of issues around local editions and pricing.

By 2010, the development of the international sales capability meant having a truly global organisation for the first time at Pub Com. UK staff reporting into the US and US staff reporting into the UK. This helped to avoid some of the tensions that happened during NLO set up as some of the roles and responsibilities were not clear at the time. Now all the marketing is co-ordinated out of one location and the same is true of other areas. There are also two definitions of a global organisation at Pub Com; one is UK and US only and the second one includes India and Singapore.

5. CASE ANALYSIS

5.1. The Structure of Strategic Decisions

The identification of decision episodes have helped to structure the cases in a way to create some basis for comparison. The summary of episodes highlighted that different types of expertise were needed and applied to different parts of the decision. Some episodes are central to the decision and some are supporting the decision by integrating the decision into the existing organisation, through reporting or customer service, for example. The cases have also highlighted that global management and the geographical distance associated with it has implications for the application of knowledge during decision making episodes.

There were no obvious alternatives for either strategic decision in terms of products type or regional market. Where the alternatives arose was in the detail of the decision, i.e. how to sell the online product, and where to open an office. The analysis provided insights on the decision structure, the managerial activity during decision making; use of knowledge to formulate and to implement each strategic decision; and the influence of new information or insights on the contribution of senior managers during the decision making process.

The points that were cross-compared in the analysis were as follows:

➢ the contribution of each senior manager to a case (by episode)
➢ the contribution of the same manager across cases (by episode)

This helped to generate insights about:

➢ the impact of senior managers' knowledge stocks on decision making
➢ the influences on the use of the knowledge stocks during the process

The analysis kept senior managers at the centre of the decision making process. In doing so, the approach provided a basis to assess the interplay of knowledge stocks which is the thrust of one of the research questions. It also made it possible to identify key factors that influence the application of knowledge stocks during the decision making process. The value of knowledge could only be identified by relating the application of knowledge to local context. How knowledge was applied varied at different points in the process. The analysis

as a result drew upon additional interview data that offered further insights, but could not be included in the case presentation, as each perspective was unique to a senior manager.

The strategic planning process turns a critical business issue into a decision that needs to be developed and implemented. The BOD approves EC decisions and it is enough for the CEO, CHA and BOD to want to do it, but the rest of the senior management team have to agree and mobilise others. Formal meetings are supported by informal conversations and meetings between senior managers in order to make each decision. The business proposal is making a case for a decision that is partially made, but one which needs to be backed by facts and a concept developed from which to proceed. The key points on the decision structure were broadly similar between cases and are summarised in Tables 5.1 and 5.2.

Business Proposal: A Critical Step in the Decision Making Process

- Research and analysis are conducted by one or two senior managers, and internal committees may be consulted on key aspects of each case proposal
- Some managers are collecting information, or conducting research, others are approving, lobbying for board member votes, or being a questioning resource
- A decision is an output of both informal and formal decision making, which intertwine over time, and the extent of each varies along the way
- Managerial understanding of the decision is informed by the new insights which are included in the business proposal and inform the next steps

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Table 5.1: Decision Structure – Business Proposal Development

The decision process formally starts when a strategic issue is brought to the wider group to discuss in detail. At the beginning of the decision process, all that is known is that something needs to be done, i.e. a new product needs to be launched or a new regional office needs to be set up. It is discussed informally over a period of time at senior level, before being brought to the management team that makes and approves all decisions. This

influences the decision in terms of who will lead the project to a high degree. But, how that would look like becomes clear *during* the decision making process. This includes the formulation and the implementation that then develops the initial concept.

The formulation of a business case helps senior managers to develop an understanding of circumstances surrounding the decision and the implementation requirements. Initial research and assessment are conducted to find out about the extent of opportunity. A lot of individuals can have a say in what goes into a business proposal, or only a few. It depends on the decision topic and its relative importance compared to other decisions in the organisation. There are internal review committees made up of senior managers that represent different functions of the business. These make recommendations on the business proposal development, but are not consulted or needed in all decision cases.

<table>
<tr><td>Decision Development: Details are Worked Out <u>After</u> the Approval Point</td></tr>
<tr><td>

- There is a project plan and key decision episodes, such as the business model, and the decisions on the technology vendor, office location, type of office, etc.
- The role of senior managers involved in in the pre-approval stage changes, or reduces , and more teams get involved that work on individual decision parts
- Insights from the business proposal will inform the work but new insights will also emerge in decision episodes which build the central decision
- There is no end point to the implementation of decision, unless it fails to achieve objectives, and it is only then that resources are allocated elsewhere

</td></tr>
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Table 5.2: Decision Structure – Development and Implementation

NLO was a more informal decision making process. It involved a concentrated group of the most senior managers at Pub Com, making a high risk decision. The decision was about creating a new entity, as opposed to building on an existing one, as was the case with NPD. At the point of go-ahead, NPD was more structured than NLO, since there were fewer

unknowns about how to take the decision forward. More research went into the formulation of the business case. The decision was able to draw upon existing resources inside the organisation. It is not to say that NPD was not as flexible as NLO, but that it required more planning and coordination between business areas in different locations.

The decision is *formally* approved at an EC meeting during the SPP and the particulars of each decision are worked out following the formal green light. The SPP is also used to give the go-ahead for organisational resources to be allocated and deployed in each case. The research and assessment conducted during the formulation of the case inform the implementation. It is where senior managers build on the basic shape of the decision, i.e. make smaller decisions. This was evident in both case studies. The role of most senior managers who approved the decision also changed at that point, and others entered the process to manage the development of different parts of the central decision. The complexity of decisions, the intensity of conflict, and the extent of buy-in required influenced the degree of intervention by the most senior decision makers.

5.2. Managerial Activity during Decision Making

The decision structures were broadly similar between cases, but the managerial activity within each structure influenced the use of knowledge in the context of that structure. It is a string of activities that led to a decision and its implementation. In the process, the senior manager that did the analysis, for example, or consulted with those outside the decision making process was not the same. That each decision episode involved more than one type of managerial activity implies that different combinations of knowledge were at work in each instance. The product of the application of that knowledge was not the same as each decision episode involved different individuals and tasks associated with its completion.

Over the course of the process, most managers stated that they only allocate about ten to fifteen percent of their time to a decision. The exception seemed to be the project managers who were overseeing the entire process through to completion. The CEO and the EC team were driving the decision making process forward, but other less senior managers also influenced the outcomes. Both groups were needed in each decision case and what made each different is the extent of their contribution. Key decision makers and influencers shaped the decision through an iterative process that involved many informal and formal discussions, and meetings, over a long period of time.

The BOD provided advice and guidance during the decision development process, but it also put pressure on the EC to make a critical decision, as was the case with NLO. As a group of most senior executives at Pub Com, it approves all decisions made by the EC, if not vetoed by the CEO before it reaches the BOD. The CHA wanting to do something therefore can make a positive difference in the process. Once the decision was approved, it was then necessary to gain support across the organisation, especially if involvement was required from different functional areas that had other projects in the pipeline. Gaining organisation-wide support was therefore not an easy thing to do, no matter how approved the decision was by the most senior executives.

A project plan guided the implementation in both decision cases, but it was only a guide. It helped to specify initial steps and priorities, allocate resources and mobilise teams to do all the work. The shape of the decision unfolded with many individuals working on different parts. It was not a case of developing a product, but making decisions on the business model, pricing and what content to sell, for example, which were all component parts of that product. Creating a new office location involved making decisions on the type of office, who would head the office, where the office would be based and how the office would be supported from the UK. The shape was influenced by the contributions of senior managers, how they come together and what they agree to at different points in the process.

Some decisions changed from the original conception, once the work began on parts of the central decision. There were delays to some decisions, and in each case, resourcing was the biggest activity. Some (financial) resources were allocated at the start, but as project teams, or the new office were set up, more resources were added, such as headcount. Gaining support from the most senior managers was not the same as gaining support from teams that were building the decision. The process was ongoing. NLO was managed at a distance, from the UK, with the US office being less involved. The new local team then had to mobilise the sales force in the region. The buy-in from new staff was not an issue, as it appeared to be the case with teams working within established structures. NPD needed support from all the business areas which required PD to sell the idea internally.

To progress forward, the team had to resolve issues and remove obstacles to decision making. This included, for example, agreement on how to proceed with opening new offices in the region, or how to get the project teams to work to deadlines. In NPD, the resolution of issues took place at project level. For sales teams, it was important to work

out how to sell the product in conjunction with other products. The issues that arose in NLO stemmed from a combination of knowledge gaps in the team, interpersonal conflicts, doing business in a new region with local regulations, poor internal communication and global management. In each case, once the central decision was approved, most of the smaller decisions were arguably not hard to make (e.g. the location and type of the new regional office). However, supporting those decisions was a more difficult task.

An understanding of the opportunity and the internal implications of each decision started during the formulation phase. But, a fuller understanding of each case was gained and evolved with the shape of each decision. It was only by working through and building these sub-decisions that improved the understanding and knowledge of each case by the senior management team. The decisions were not only based on the analysis, but application of knowledge gained through years of experience and knowing how the organisation works. New insights emerged from the managerial activity. It was not a simple case of applying existing knowledge, but also responding to some of those insights in the process.

The number of sub-decisions associated with each project was not the same. Each was only understood once the work was done, such as making the decision on the most appropriate business model. Each decision case showed that there can be a lot of trial and error before the solution is found, even with the most experienced managers involved in the process. The setting up of a new office required local market investigation to inform decisions at corporate level. There was then the challenge of integrating the work into a coherent whole. Understanding how the central decision fitted into the existing organisational structure and workflows of teams was as important as the elements of the decision.

5.3. Knowledge Use in Decision Making

The interplay of knowledge stocks was found to underlie most of the decision making activity. At each point, senior managers contributed information, or insight that informed the process. To see that a new product is needed or that there is lack of presence in a region is arguably not very difficult. It is the 'how' that needs work; i.e. the identification (and creation) of steps to be taken in order to *process* the decision. In terms of knowledge use in decision making, the comparison was made between senior managers who played a key part in the same case (e.g. CEO and Finance Director) and the use of knowledge between cases for the same senior manager (e.g. CEO or Managing Director).

It was clear from both cases that with most work running in parallel, each senior manager had a limited view of it, which influenced their application of knowledge during decision making. The multiple views of each strategic decision made the analysis of contribution challenging. The data suggest that most major insights emerged at decision level. A central structure ran through the process and there was ongoing support in terms of buy in and resolution of issues to push the decision making forward. It was the combination of the two which provided the context for application of both, the knowledge and experience of senior managers leading the process and any other knowledge brought into the process.

The steps that were taken to analyse the contribution of each senior manager, and the insights that were generated, or applied in decision episodes, were as follows:

➢ Identify the stock of knowledge brought in by senior managers who were centrally involved in each decision episode – see the summary of key episodes

➢ Relate that stock of knowledge to other knowledge in the episode - the sources of this can be other key decision makers, or those not directly involved in the process

➢ Identify new information/insights that emerge from application or participation in an episode - this can be derived from individual case accounts and/or decision episodes

➢ Determine if new information/insights are an input into the same/different episode, or if they only contribute to EC discussion where key decisions are approved

➢ Assess the outcomes of knowledge application in and/or across decision episodes - this can be identified at individual and/or group level

To find out what knowledge was brought into the process was achieved by understanding a senior manager's position in the company, experience and skill set developed over a period of time. Each also brought in knowledge about the customers and the competition, the organisational culture and procedures, and insights from other executives in the company who are not directly involved in the process. By analysing each manager separately and relating each contribution to those of other managers, it was possible to examine how a combination of knowledge is used in a decision episode to produce a set of outcomes. In doing so, it was possible to identify the type of expertise that was applied in each case.

The expertise refers to existing stock which can relate to publishing in terms of content, managing teams to accomplish tasks, or developing the business beyond its current context. To illustrate, knowledge of what Pub Com should be publishing and how was used to come

up with the concept for NPD that was developed into a full business proposal. Knowledge of Pub Com, international sales and marketing and business development in publishing led to the initial concept for the NLO office. This also highlighted that a different type of stock can get the decision making process going, even if both managers are decision makers.

5.3.1. Variable Contribution and Involvement

The involvement of each senior manager depended upon others as much as the decision requirements. NPD was an internal investment which required a higher level of involvement across the organisation, whereas NLO was an external investment that required higher level of involvement by the most senior executives. One manager, for example, can bring in knowledge about the content and another about the market in order to decide what content to put online. But, in each decision episode there is more than one senior manager involved who will at different times consult with other sources. In such a way, that manager can increase their contribution to a decision. The CEO makes the final call on the central decision, but each one is based on the work of many individuals.

Two senior managers with different skills can make a decision, but they can also contribute differently to each decision episode within the same case. This was a common theme across decisions. For example, ED relied on her knowledge of content at Pub Com to select what existing content to convert to a digital format and put online. In collaboration with the Technology team, the senior members of the Editorial team used their knowledge to develop the ontology which underpinned the product platform and work on its development. The cross-team collaboration indicates that the application of knowledge does not take place in isolation, but it can take place across episodes in each case.

In NPD, most work was done by an individual not centrally involved in the process, but the one selected by a senior decision maker (PD). In contrast, most preparatory work on NLO was done by a senior decision maker (MDL). The entire NPD, while supported by the decision makers who are gaining buy in, managing meetings, and making key decisions, was based on the work of other senior managers. Higher involvement of the most senior executives made the less structured NLO process more informal than NPD. It seems that the more concentrated the process, the less detail is documented along the decision development path, at least in the two cases studied. There were business issues associated

with NLO on the annual operating plan, but even with the appointment of the new MDA, the process was kept fairly informal.

In NLO, it was MDL who led the work on the decision and most of the communication between the EC and the NLO team responsible for making local decisions. It was MDA who informed (and changed) the decision on approach to sales force management, and who was hiring local staff, or expertise. But, in terms of office location and pricing deals, there was some involvement from the UK office, in particular from FD and SMD, in terms of financial and marketing expertise. CEO was approving all the decisions made by MDL who in turn was relying on the local knowledge and experience of MDA, JD and BD. These managers either made or informed the local decisions associated with NLO set up. The decisions were put forward to the EC for the final seal of approval and financial backing.

CEO and MDL were less involved in NPD, led by PD, who only approved NLO decisions as a member of the EC. CEO was gaining approval from CHA and the BOD, but also informally championing the product, while MDL joined the SC later in the implementation. PD was coming up with the idea in NPD and making a case to the rest of the EC. To make the decision happen, PD's knowledge of power levers at Pub Com, and how to galvanise them was important at various points of the process. The buy-in process was more challenging in NPD and quite a few senior managers needed to mobilise others. PDU was resistant to NPD idea, but with CHA and CEO on board, it was not a major concern.

In NPD, PD delegated the research and assessment to ED and SM whose work got the decision approved by the EC. It was ED and SM who came up with the initial and full proposal that was used as a basis of the work in the implementation. In NLO, PD was informally discussing the move into the new region with MDL for a long while, before it entered the formal process. It was then decided that MDL should take it on. The consequence of that decision was that PD was approving it and providing support for the UK office following the restructure. A different group of senior managers was involved in NLO, and different episodes took place in the implementation.

Two other members of the EC had quite different roles between the two cases. COO approves all strategic decisions and is responsible for development of the annual operating plan that affects all projects. She played an active role in NPD by chairing SC meetings, whilst in NLO she did not have a role, other than approving decisions made by MDL and

providing local systems support. As one of the most senior executives in the organisation her contribution to strategic decisions is necessary, but limited in most cases. It does not appear to make a difference, however, since all key decisions were made at group level.

FD was quite hands off in the formulation of both cases. She provided SM with guidance and advice on the development of the NPD proposal. FD's role in the NPD implementation increased to managing the back office development and working with her counterpart in the US to make decisions relating to revenue allocation, in consultation with the external consultancy firm. In NLO, FD was mainly concerned with issues relating to her functional area and dealing with integration of the regional operation into the global financial reporting structure. This was achieved by liaising with MDA at a distance from the UK.

SMD was responsible for integrating the new NLO office into the sales and marketing structure, but at a distance. There was consultation with his counterpart in the US in terms of what office should handle customer service support and revising the pricing proposals that had input from JD at local level. In NPD, a US director initially managed the Sales and Marketing team, which was taken over by SMD in the implementation, once the global restructure took place in the second phase of the project. BD and JD were only involved in the NLO and helping MDA to establish Pub Com presence in the APAC region. Both were not involved in all episodes, but managing teams of representatives.

Senior managers who sit on the EC and approve all major decisions had a role in both cases, but their proximity to the decision was variable, even during the initial stages of the process. What this means is that the extent of their influence is not the same. The formal decision making process is in line with the SPP structure which generates all important decisions at Pub Com. There are, however, differences in knowledge application during that process. If a decision required a higher financial investment, FD would have done more financial modelling and analysis. But, it was not necessary to that in the NPD case.

5.3.2. New Information and Insights

There were multiple sources of information and insights in both cases. The difference between NPD and NLO in terms of insights appeared to stem from the decision topic and the existing knowledge base of the senior management team. NPD was an innovation and the information which were gathered in the process and converted into insights stemmed from a different set of objectives than NLO. It was a new product and the market research

episode required a lot of consultation with internal experts and the information gathering process relied on different types of external conversations with the customers.

NLO was a late decision that required the team to gather large amounts of market intelligence in order to build a business case for expansion. The sources of insights were also different at various points in the decision process. Only a relatively small proportion of what was generated was captured in a document format. Most fed directly into the development of each decision, through the application of knowledge and experience of senior managers and teams who make and build decisions. There were meeting minutes, reports, proposals and templates which informed the work in decision episodes. The importance of individuals in the process of insight generation was evident in both cases.

The insights which emerged during the process related to managers' own business areas or were gained from others who are involved in the process. Strategic decisions cut across many areas, and the insights that were generated did not appear to emerge in isolation, but in the context of the central decision. The insights were either positive (i.e. highlight a solution), or negative (i.e. highlight a problem), specific to an issue or an episode, or general. They were used in a decision episode, documented or stored as experience for future use. The insights emerged from managers' own work, and at times unexpectedly, or were gained from the contributions of others, who were directly, or indirectly involved in each decision.

In the case of Pub Com, many insights that emerged were tied to the decision context or a business function. Most insights emerged at the level of decision. This means that even though it was mentioned by one senior manager, others were gaining the same insight during the process; unless, for example, it was an individual piece of analysis. However, the participation and the use of insights in discussions, or decision making, implied that such insights do not tend to stay individual for long. For example, the members of the Technology team gained insights about how difficult the platform development would be and then collectively applied their newly found expertise within the team. The team shared those insights with other teams whose decisions were dependent on their own.

Most decision episodes ran in parallel which made it difficult to track the generation path of many insights. The data also indicate that a lot of decision making occurs in small groups, and offline which is not captured by the formal process. In many instances, senior managers relied on knowledge of others to inform their decision making. The CEO, for example, was

approving decisions made by MDL without having knowledge of the region. MDL's decisions related to NLO were influenced by MDA, who had knowledge of local markets that the EC members did not. Often, PD and MDL simply wanting to do something is enough for FD and other senior managers to agree to the decision.

There was nothing to separate individual insights from those gained at decision level. Market research is a good example, so was the scale of the opportunity in terms of expansion. They can emerge either outside, or inside the organisation. But, given that each manager's experience in the process was different, insights which came to light for each were also different to some extent. It was not easy to separate individual insights from collective, unless they stemmed from direct analysis and dealing with political resistance within the organisation. The latter also seemed to require use of power and authority in combination with other knowledge to remove the obstacles, or deal with conflict.

In both cases, the insights that were gained on the individual basis were general observations. Some senior managers merely carried over insights between teams, or insights from teams fed into EC discussions which approved those decisions that affect one or more decision parts. Did general observations affect the use of knowledge? They influenced the buy in process. There was a degree of consultation in each case and what was important was identified in an episode where different types of knowledge are applied in combination to produce outcomes, such as insights, or decisions.

5.3.3. Application of Knowledge and Insights

The difference in the use of knowledge can be noted at the start of the decision making process. The process also seems to be more concentrated in terms of involvement. The influence of different types of (complementary) expertise was noted in both decision cases. It varied by episode. For example, most senior managers rely on others to make the decision, or do the work. This can occur between the CEO and his direct reports, or individual members of the EC and those who work in business areas. Insights can influence the use of knowledge, but the stock of senior managers' experience and organisational capabilities imply that at times the team will decide to ignore insights. MDA's ideas were not always favourable, but he also managed to influence most of the NLO decisions.

Most senior executives act as advisors to less senior managers. During the formulation phase they might not have direct knowledge of the decision, so they are mining facts that

informs their judgement. In the implementation, the extent of their contribution, in terms of knowledge, changes. They may approve the decision, but then chair meetings or manage an aspect of the central decision. This is an important observation, since knowledge is usually associated with power in a positive or additive sense. That is, senior managers are assumed to have more knowledge (and hence greater power) than more junior managers. However, senior managers' dependence on the knowledge of others places them in a relatively power-less position (from a knowledge-dependency perspective).

Over the course of the process, there are many meetings and discussions that take place. The meetings happen in either twos or larger groups, such as EC, committees or project teams. In both cases, by the time the decision is made to do the research and put the proposal together, the decision is already informally made. It needed approval and the senior managers who were centrally involved led this part of the process where they relied on knowledge of the organisation, its culture and people, as well as own functional expertise. However, no senior manager at Pub Com was solely working on either NLO or NPD. The extent of the contribution each made was specific to each decision.

As a result of the work done during the process, NPD developed into a different version of the original concept. It meant that what was approved remained the same, but what it ultimately looked like, evolved during the decision process (e.g. type of product, sales office). The initial proposal for NLO was very basic, with key decisions made after the go ahead. It was left to the new MDA to lead the opening of the local office. He had experience, but lacked expertise in a key area of the business (journals). Other regional representative offices were opened with the help of his direct reports, including JD, whose experience in the region, made them decide to phase out the new office openings.

New insights were an input into the same or a different episode. Insights from Editorial, for example, were used to inform key decisions in the Technology and Back Office teams. Many insights from the formulation fed into implementation as a result of all the research that was done to create the initial concept. Insights informed the ongoing decision support and the EC/SC meetings where progress is discussed and key decisions. These meetings were review points in most cases, but necessary not only to making decisions but maintaining commitment at all levels of the organisation during the process. As the insights were applied to smaller decisions, the shape of the central decision gradually evolved.

In both cases, new insights emerged through collection of information in and across decision episodes. The data indicate that the team was gathering information over a period of time. A lot was not anticipated in advance of doing the actual work. This was the case, for example, with the NPD platform development and hiring decisions in NLO which proved to be problematic. This was despite both MDA and BD who were responsible for recruitment decisions having experience and knowledge of the local culture and markets. The PDU was not fully supportive of the NPD decision, and even though the decision was approved, her political resistance made it difficult to mobilise staff in the US office.

The differences in the scale and shape of central decisions highlighted some differences in the use of knowledge. NLO was more of an informal pathfinder than NPD. The use of knowledge was more concentrated, with fewer senior managers involved and no committees. There was one concept that allowed the decision to get taken and one to implement it. NPD, however, drew upon a wider combination of expertise inside Pub Com that had a more direct influence on decision making. It was not a case of one process being better than the other. Rather, the circumstances surrounding each case implied that decisions were significantly different. It could be noted that similarities lie in the differences between senior managers in terms of how they applied knowledge across cases. These stemmed from decision parts that had to be built, which impacted contribution.

5.4. Emergent Themes

The approach taken to analyse the application of knowledge in decision making has highlighted how the role of senior managers changes between decision episodes. As the role changes, so does the contribution of the knowledge stock that each senior manager brings into the process. There are a number of influences on knowledge application which are tied to the central decision. The context can equally be an episode, where the value of knowledge (stock) can change significantly. It seems to depend on who is in the decision process and at what point. The value-added is likely to be negotiated in the process.

One of the key findings to emerge from the data is the extent to which knowledge use is variable across cases. This is compounded by the emergence of new insights that are gained during the decision making process. These are not always directly related to a stock of individual knowledge since most managers do not spend a lot of time in the process. Or, the insights can be gained from research, for example, and other internal or external sources at decision level and used as an input to development and implementation.

The emergence of insights and how they are used during decision making will impact the evolving shape of the decision, through work in various episodes. This can matter more than existing knowledge and experience – individual or organisational - that is brought into the process. New knowledge creation is an outcome of knowledge that is applied over a period of time. The data suggest that how the existing knowledge is combined with new insights along the decision development path can help to build each case.

There are a number of themes that can be identified from the case data. Next, a summary (see tables 5.3 to 5.7) and an explanation of key points are provided for each theme. A handful of case examples are presented to highlight the key points. The themes serve as a starting point to understanding the application of knowledge in decision making. The insights derived from the data therefore offer a basis for answering the research questions which centre on the application and development of knowledge as an asset. As shall be highlighted in the discussion, the value-added is subject to temporal and spatial influences.

5.4.1. Knowledge is Used to Initiate the Process which Generates a Decision

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THEME SUMMARY

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- It is mostly clear when a decision has to be made, but how it will look like requires a lot of work, and knowledge is used to initiate that process and sustain it

- Individual knowledge initiates the process to investigate a concept and in doing so, turns "let's do something" into "let's do this", i.e. the decision project

- The initiation process puts a frame around a decision (context) and gives it a basic structure to build on at later stages of the decision process

- The decision is not generated solely by relying on individual knowledge, or expertise, but with the support from knowledge about the organisational context and other individuals

- The decision is generated over a period of time, which means that knowledge is also utilised, and generated, over time

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Table 5.3: Theme One – Summary Points

In the early stages of decision making, there are clear reasons for making a decision which evolves out of senior level discussions over a period of time. But, due to its novelty no one is sure how the decision will look like at the start. The idea for the decision is brought to the group by one of the senior managers. It is discussed in EC meetings where the team agrees to develop the concept. Background factors and strategic objectives, at either business unit or corporate level, can help to frame the decision in terms of what it aims to achieve, which is discussed in formal meetings that make up the annual planning process.

This is followed by coming up with the actual concept. The frame, such as a new product or an office location, informs the shape, of the actual decision which is worked on by senior

managers during those initial stages. It takes senior level discussions beyond what new products to launch or where to open a new office to something more specific; for example, it will be an online database that will be sold to the library market, or it will be a sales and marketing office in Singapore that will be used as an entry into the market.

Knowledge is used to inform discussions on what to investigate and thereby initiate the decision making process. Senior managers use their knowledge to generate a decision. It is used in combination with knowledge of what works in the context of culture, as well as what the organisation is trying to achieve and how it wants to go forward in its endeavours. Sometimes it is obvious to see what the competitors are doing and that a decision to launch a new product or expand to a new region is the right thing to do. But even in such instances, the decision needs to be framed through that process of initiation.

The decision is generated over a period of time and different knowledge will have bearing on what is used at the point at which it is brought into the formal process. Those directly involved can draw upon insights from other senior managers, such as those related to the sales and revenue growth over time. Knowledge about what works in the organisation and what customers want from a new product, for example, can be used to help a senior manager to build the case for a decision. This feeds into ongoing discussions that lead to a decision to develop a full business proposal.

By the time a business issue enters the formal process, the team could already have a good idea about what to do next. A key point of difference between the decisions studied lies in the individual who is leading the team. This influences the contribution of other senior managers, which is important since it is the individual who selects what other knowledge is relevant to a decision. The selection will not only be based on existing knowledge of senior managers and what they draw upon in the process. It will also be influenced by interests and preferences of the wider group who need to support the process.

The concept proposal informs the smaller decisions that address different elements of each decision. This is the output of knowledge application of one or more individuals. At the point of go-ahead a decision seed was generated. The important decisions were made later (e.g. business model, type of office), some on one-to-one basis, but all stemming from the original concept and research conducted up to that point. It is that which feeds into decision making process, and provides a basis for discussion and decision development.

The initial shape of the decision is approved, and knowledge which was used to initiate it remains in the process. Even if there was a need for a decision, a senior manager had to turn it into something concrete to be approved. The initial shape does not change by the time the decision is implemented; it only becomes a different version of the original concept, as details of the decision are worked out in smaller teams. It means that what was individual knowledge to a large extent at the start of the process becomes an embedded part of the decision process as it moves forward.

EXAMPLES - NPD

Germination of the Concept

"We have a mechanism actually which helps with the generation of ideas, and the conversion of ideas into something more substantive, which is our strategic planning process. In January, we have a kick-off meeting where we pull together, managers from across the different publishing functions, and we say now in this part of the year this is time to actually look up and out, where can we see new areas we can look to develop as a business, and then over the next months we have groups going around working, coming up with various ideas, coming up with plans and so on, we get together in offsite meetings, we discuss those ideas, and then some of them we take forward, and the ones we take forward, go into a more specific planning process." - PD*

"Over a period of time there were discussions on what we can do with that dominance, how can we capitalise on that...and then the other conversation was, what we're going to do in order to drive the electronic future of our publishing... and there were markets we could see opening up in terms of how to develop the products, two strands that were flowing through discussions at various meetings and off-sites." – FD*

Framing of the Context

"The general context is that Pub Com has historically been associated with RX publishing since its inception. So, Pub Com is renowned for innovating on RX. A lot of our early publishing was devoted to dissemination not just of, of what people studied, but actually how they studied it..." - PD*

"What new products can we innovate in the area of RX so that we can refresh and renew this position that Pub Com holds. So it's not just what we've done, but also what we can do. So it was that broad framing about the year of RX and how we reinvigorate ourselves that were the predominate factors that drove this decision." – PD*

"Putting the two together, the quantity and quality of content, and its position in the market, together with our desire to develop some innovative online products, meant that this was the right combination of subject area." - LD

Generation of the Decision

"My responsibility ultimately is deciding what it is we should be publishing, and how. So this decision we are talking about, which is the decision to create a new product called NPD, falls within my remit as someone responsible for the strategic direction of our publishing." - PD

"I had a good grasp of how value is created within Pub Com... so an understanding of how significant the library market is to (us) internationally... I had an insight that we've had a good business-to-business actor out there with whom we could transact... so, the nature of the library, the nature of RX, and so that helped me come up with the idea, as something that would be central to Pub Com." - PD

"So, the broad idea was, we need to create sort of an online database which will support faculty and students to do research one way or another. We wanted it to be something that would be bought by the librarian, which we can sell to through our sales team, who currently talk to librarians about journals and our reference products, and that was probably as far as I went with articulating the idea." - PD

"Let's get people to do some work, to start to map out those ideas...the key driver of that was ED. She was responsible for pulling together various work; She hired consultants to start doing some research into the library market, to look at how one could put together this kind of concept, and sharpened it up into something that looked like we could say this was the right thing for us to pursue." - PD

"We've got comprehensive coverage and because of that we are able to develop this tool, that if anything you want to know anything about RX, actually the information is there, and I don't think there is anywhere else where we could develop something that is so complete." – ED

EXAMPLES – NLO

Germination of the Concept

"The question at stake was how Pub Com was engaging with its international sales, marketing and distribution capacities, particularly with respect to the Far East Asian markets, and that was a central question for our business." - MDL

"Mainly our knowledge of the Asia Pacific economies and markets, knowing that all of our competitors had presence in Asia Pacific and an office, and so it was pretty easy to see that without putting a big business case together, all of our competitors were in it, was the right thing to do… another deciding factor was that it was important to our authors and our customers that we were seen as having a representation in Asia Pacific, it was important area of geography that we were missing." – COO

"A lot of the conversations around the opportunity in that market, which would have bubbled up from all over the place, because lots of things were pointing in the same direction… seeing significant growth of sales curves, seeing what our competitors were doing, seeing what the demand was from our societies and our partners, seeing what the growth was of education, in those markets……it was a non brainer we should go into Asia Pacific." - SMD

"Well, certainly the sort of sense that we needed to do something a bit different in our approach to Asia Pacific, had lots of different sort of factors, it wasn't something that I came to on my own, so, PD and I had been talking about it for, you know, the previous year or so…" - MDL

"Our head of international sales and BD had brought to bear his own perspectives on what some of the opportunities were, SMD,… there were a number of different stakeholders within Pub Com London, voicing different perspective and angles on the fact that we should take on doing something different, we had within the US, the head of the sales and marketing organisation in the US I think feeling there were opportunities we weren't fully exploiting, PDU, and those were the main inputs at the time, and so my own thinking was partly shaped by inputs from those internal stakeholders." - MDL

Framing of the Context

"I recommended at this time was essentially a full scale study on what is the opportunity in Asia… so what I said was I'd like kind of a full scale analysis of the market opportunity… I wanted them to pick a city where we would base our Asia Pacific operation….I gave them an indication that I didn't think it wasn't one or two people, that I wanted a…you know, I didn't know if it was five people or ten people, or fifteen, but I wasn't….my inclination was that it was a group of resources, a group of people that we would build to expand into Asia, and then the third guideline, more or less was, I gave them an indication that I wasn't sure where and how it should report into the organisation." – CEO

"If there is a reason to be in Asia, then we need to look at that, but BD is not our Asia strategy, and furthermore, of the companies, either companies that I'm familiar with, KL is generally speaking not the point of entry into the Asia market..." – CEO

Generation of the Decision

"I identified this issue about what we are going to do with the Asia Pacific markets as one of the things I wanted to take more personal responsibility for and so spend a good, a good chunk of my time in the second half of 2005, you know thinking about how we are approaching it and preparing some documentation to enable a decision to get taken." – MDL

"There was a general feeling that we needed to do something about the Asia Pacific, no one else was very clear about what, whereas I laid out a sort of plan of action that said well, this is, these are some of the things that we should be doing and some options as well, we can do it and it will look like this, or like this, or like this, and here is where I would pitch it kind of thing, and it's when you make, when you move away from oh gosh, we must do something into we should do this that actually that tends to concentrate the mind." – MDL

5.4.2. The Informal Resolution of Conflict and Decision Agreement

THEME SUMMARY

- Meetings take place between senior executives that are not captured by the formal process, but which weigh heavily on the shape of the decision and its approval

- Most senior executives can be framing and/or making key decisions on their own and bringing them back to the group which signs them off

- Knowledge sharing takes place across both dimensions, so does resolution of some (big) issues before they even get to the board or executive committee meetings

- Individual knowledge is supported by knowledge sourced from other individuals offline and knowledge of the context in terms of how they deal with issues

- By the time knowledge comes into the formal process, it is infused with interests and this in turn influences the shape of the decision that will be implemented

Table 5.4: Theme Two – Summary Points

Each decision making process is comprised of informal and formal dimensions which intersect at various points. Many informal conversations can lead to a decision which can go on for many months. In the formal process there is a pre-formulation phase where decision is made about whether to proceed with the business proposal development, and this is followed by the formulation phase where decision making takes place. The one-to-one meetings that influence the decision are not necessarily captured in the formal decision process. Gaining buy-in and lobbying for approval frequently occur offline in an informal setting; in a corridor, during lunch, and consensus is reached on an issue or an entire decision before it gets to the boardroom. These managerial activities can weigh heavily on the evolving shape of the decision. Such activities could be agreements on a course of

action, resolution of issues within an area, such as finance or marketing, or getting buy-in from key senior managers. It can all feed back into the formal process at any point.

The initial framing or even making a key decision during the process can be agreed upon by individual senior executives, following discussions with others. The CEO or the Managing Director, for example, can decide on the shape of the decision on their own, and bring it back to the group for discussion and approval. If the senior executives trust each other, then those decisions will not be challenged, but merely agreed to by the rest of the executive team. In each instance, individual knowledge will almost certainly be supplemented by knowledge from other sources to help the executives move a decision in a particular direction. Analysis that goes into proposal can be discussed offline, potentially adding information senior executives might want to see before approving a decision. It is very likely that a decision may need to be made in a certain way, given current levels of performance, strategic direction of the organisation and the priorities of the BOD.

The informal dimension of the process has implications for knowledge use in the formal decision making process. It is used offline to resolve issues or gain agreement on key elements of the decision. When discussions take place in the formal setting, the agenda of those meetings is already influenced by offline agreement. Knowledge is used as a source of power and influence as much as power and influence decide what knowledge to use in decision making. This can be achieved by setting the agenda, framing the decision, the structure within that frame and the smaller parts within that structure. Senior managers can use existing knowledge in a way that brings the interests and preferences of the dominant coalition to light over time. This can be achieved by resolving issues and conflict, or avoiding them in the formal process, and making issues become non-issues offline.

EXAMPLES – NPD

Gaining Approval to Initial Go-Ahead

"In terms of making the decision happen, I think I have quite expert knowledge of the, who has what hands on which lever, what power levers in the organisation. I've got a good relationship with the owner of the company I've got a good relationship with the CEO, a good relationship with my colleagues here in the UK, and a number of colleagues in the US, and I was then able to galvanise them, enthuse enough of them to make them think yes we must have this, let's run at it." - PD

"The political resistance was a particular thing I needed to tackle continuously at various points, and I did that more by persuasion than force. This isn't someone I had any power over, this is someone who was my counterpart, whose buy in I needed…. I did that through a whole sequence of having her come to my staff meetings here and hear them discuss it, socialising with her, going for dinner and talking it through, and trying to tease out what was the issue and so on, indicating to her that people had power over her actually believed in this idea, and therefore why wouldn't she as well." – PD

"I needed the US office to be mobilised, and be supportive of it, so it was quite a challenge. Luckily, the CEO and the owner of the company were both very supportive of the idea, so, so her reluctance didn't really matter that much in the end." - PD

"I mean, once the CEO wants to do it, and the owner wants to do it, you're pretty well there, so other people can stand in the way if they like, but it's probably not that wise…" - FD

Gaining Support Post Go-Ahead from Key Individuals

"Another form of political capital she needs is me doing individual lobbying with people who I didn't have direct power over in the US, so the key person being TX, the Marketing director, and I would take him to one side and say, you can build your reputation in Pub Com by championing this product and being associated with its success, so persuading him to want it enough, to be a local advocate."- PD

"What I needed to do was wherever I felt there was a need is to make an intervention at any of those levels, and sometimes to mobilise some of those levels, to engage the others, sometimes I needed stuff from Marketing people to get senior people more excited, sometimes I needed senior people to say, we need this, by then, to get them mobilised." - PD

Resolving Issues/Making Decisions Post Go-Ahead

"If we are both aligned, it's fine, you know, no one is going to say anything so.....we tend to have conversations sort of off line just to make sure we're in agreement...but there is no way you're going to go to a steering committee with some huge gapping issue between me and the FDU, unresolved... that's unlikely to happen, we would sort it out before we ever got there." - FD

"It depends on the thing, I mean, we could, I suppose between myself and another senior person in the company, you could say "well, we're not sure, are we, we'll bring it up at the steering committee", as long as you both agreed that that was it, and then you both agreed, then, then we would do it, but it certainly wouldn't come up in a kind of 'I don't agree with you' way, you know, in that sort of, pre agreed way, that, that wouldn't be very, that wouldn't fit with our culture." - FD

EXAMPLES – NLO

Informal Conversations to Go-Ahead

"I might sometimes go offline with one of those individuals, so let's say for example, the COO in the roundtable meeting, let's say I sense that perhaps she has some reservations that may be small, but didn't come up in the general meeting, I may circle back with her, and you know at lunch say, last week in the executive meeting we were discussing Asia Pacific and I felt she had some reservations, and so I'll meet with them in a group, and I'll meet with them individually." – CEO

"Maybe it's the sort of thing about how Pub Com sometimes does things, it can be quite an evolving set of conversations rather than having a clearly identified, very specific meeting where everything happened, there is a lot of informal decision making" – SMD

Gaining Approval to Initial Go-Ahead

"I will also start talking with sort of our board of directors, on a one to one basis, and so I will start asking, I'll usually send out some formal email communication and say, you know, I'm taking this into consideration, I'd asked for this analysis to be completed by a specific deadline, we are going to be looking into a much greater and much more aggressive expansion into Asia, and that's an issue I'll be raising with all of you, and they all start writing back to me with their thoughts and I start, I literally start working the telephone, what are your thoughts, what are your concerns, what do you know, and generally speaking, I take the temperature." - CEO

"I think any CEO would tell you that, if there is going to be a lot of debate or there is a counter-intuitive proposal, or that is, that is rarely brought into the boardroom...the board meetings are to stamp decisions that have essentially already been made...so by the time, you know, by the time we had a formal board resolution to expand into Singapore and create an entity called Pub Com Asia Pacific, the decision had been

made and agreed to by every single board member one on one with me, so at that point it's just a formality." – CEO

"I'm getting a lot of early signals about what they believe in, what their issues are, and because in this situation our board members were strongly in favour of…I knew that we were going to make a decision, the board is going to make a decision in the favour of this proposal, and this investment, right? - CEO

"The board didn't need to sign off as such, CEO's authorisation to me was sufficient to, you know, for me to proceed with the changes I was making here, and CEO was obviously talking with his board in the US and SMM, so that he knew he had their support in terms of what he was intending us to do, but there wasn't a, a formal proposal put to a board and then signed off by a board at that stage." – MDL

Resolving Issues/Making Decisions Post Go-Ahead

"So there was the decision to proceed with establishing an Asia Pacific office, and then linked to that the restructuring of Pub Com London to accommodate my time getting reallocated to setting the workings of that office, so the, the….those two decisions were taken initially, conceptually in the ECM offsite in Miami in December 2005, and then the second part of it, which was the restructuring of Pub Com London took place by agreement between myself and CEO, over the following sort of 8 week period, and then it was implemented" - MDL

"MDL's official position was, if you move me out of London completely to International, that would have a negative effect on London…and because his case was very believable, and even though I felt intuitively that I should move him more to the international piece, I was concerned enough about breaking something, this winning formula, ruining this success we were having in London, and so for about 12-18 months we had a very good, thoughtful, intellectual debate about whether he should retain some responsibility as the MD of Pub Com London, and in the end I decided that he should, and so I gave him the title of the President of Pub Com International and MD of Pub Com London." - CEO

5.4.3. The Use of Knowledge is a Function of Decision Topic

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THEME SUMMARY

- The impact of senior managers' knowledge on decision making varies between cases and decision episodes that make up the decision project

- Role in the process is a function of the decision topic as some will bring the issue to the group and lead it; some will support it; some will influence the decision but not make it

- The extent of involvement is also influenced by contributions of others and when an intervention needs to be made to resolve issues that stand in the way

- The proximity to the decision by each senior manager varies and impacts the extent of contribution by phase and decision episode

- How knowledge is used will also depend on the emergence of insights which are likely to come from others involved in the process or those they pull in from external sources

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Table 5.5: Theme Three – Summary Points

Senior managers take action at different points of the decision making process within the frame set at the start. Each relies on previous experience to a high degree. One or two are most likely to get things going to generate the decision and initiate the process. However, thereafter, involvement will depend on the topic. Fitting a new product into an existing infrastructure or building something entirely new, would involve different functional areas or individuals leading the decision through to implementation. This means that the application of knowledge is likely to be different too, even though the basic process the decision would go through may be similar across cases in an organisation.

The involvement of various senior managers influences the use of knowledge significantly at decision level. A more senior position in the organisation is not necessarily related to

higher contribution. The work of someone less senior can influence the entire shape of the decision. The proximity to decision varies at different points of the process and both would rely on different aspects of their knowledge stock, given their role. Functional managers will have a different skill set from a Managing Director, or a Chairman, but they would still have knowledge on areas which can inform decision making. The most senior managers approve the decisions, but then there is divergence in terms of their contribution.

The time element makes the use of knowledge dynamic in decision making. Firstly, each decision takes place at a different point in time. It means that roles and responsibilities are likely to evolve. This is true even if the same group of individuals is involved across decisions. Secondly, some will have more or less knowledge and experience at the time a decision is taken. This impacts the use knowledge, or a contribution to a decision case. Each decision has a set of requirements, which the current team may not meet, so expertise may be brought in to fill the gaps. Or, during the process the team may acquire the knowledge that it needs to make the decision. Lastly, the length of the decision process implies that a wide spectrum of knowledge is drawn upon along the critical decision path.

The more senior managers are likely to be less involved in the process, but they would still have to make or authorise a decision. Decisions which are higher risk (e.g. expansion, mergers and acquisitions), that require development outside existing organisational structures, may mean that senior managers will be involved to a greater extent. For other types of strategic decisions, in terms of framing the decision in context, making a financial investment and approving it, a certain level of consistency exists between cases. But, the overall shape of the central decision is worked out during the process.

As the demands of the central decision become clear, so do the roles of senior managers who need to be involved to a degree. Not all will have a defined role, but each can make ad-hoc interventions, if and when needed, in the process. There is an element of spontaneity that emerges from application of knowledge which draws upon other knowledge; i.e. it cannot be anticipated in advance. The emergence of new insights will impact how knowledge is used and what emerges is tied to the decision topic. Not all insights will be directly relevant to the case. This will be covered in the final theme.

EXAMPLES - NPD

Gaining Support for the Decision

"I stayed close to the politics, and the levels of persuasion within Pub Com, I pulled away from product development piece...SM also needed some additional back up which was to further embed within the organisation the fact we were going go and commit global organisational resources to this project, because while I managed to defeat the politics sufficiently to get the decision taken, it's still not the same as getting the implementation agreed all the way through the organisation, so I had a decision, but I still had asymmetry with people in the UK very invested in it, people in the US thinking that's not being made here, and yet needed full global buy in at many, many levels, beyond just my counterpart who I needed to get a sign off in the NY meeting." - PD

Investigating the Decision

"We have... a tried and tested methodology and we know what kind of report we're going write, we know the kind of projections we're going to do, and we know how to analyse and evaluate that. I think for internal investments...we haven't had the discipline of doing that as rigorously..." - FD

"In different times, with slightly different support and people, and support, and slightly different, I don't know, more complex product, something that was more expensive, you would need to go through that, and if you didn't, you'd fall, and it would then be difficult to resurrect that project." - FD

"I guess one of the things was framing the research at the beginning ...so we could just go out and do it, but one of the things that I personally often do is to put things into phases or groups that are manageable so we have certain time at which we want to reach a particular objective, and at that point we want to make a decision, and then we move to the next one....and so dividing that research into three phases where we were addressing the buyers, the users, and then internal implications, I think was, was really key, and we followed the shape, the structure of that project." – SM

Project Planning

"I guess there was an assumption that I would take sort of the lead for the project team forward, and coordinate things, so I started putting together a chart which was this.....of the different project teams that should be involved." - SM

"I put together a project plan, and identifying with the chairs each of the core objectives for each of the project teams, and trying to start mapping onto that, timelines for each of those core objectives and dependencies....and that was quite a challenge to do actually, because I think a lot of those teams haven't really worked with written out project plans before, and so it was difficult initially for some of the teams to form the objectives or know exactly what needed to be done" - SM

Building the Decision

"The back office can't possible cater for every single sales conversation that is going to happen, and every single request…we have to try and simplify it and try to standardise them as much as possible…I play that role of kind of bringing people back to the practical, and what's more possible." - FD

"I've been chairing the editorial committee where we've been making decisions around what content goes on, and commissioning new content… so just pulling everybody together, agreeing what our objectives were, really…there was a lot of exactly what kind of product was this, and therefore the content that needed to go on, needed to follow a real understanding of who the product was for…."- ED

"I think ED, myself and SM, our role in that place, ED actually knew the ontology really well, but she was still able to step back and be neutral at times, it was really facilitating between the two groups….facilitating the understanding and trying to make sure everyone understood from a technical perspective where, where the team was coming from, and then understand the editorial team and what they were trying to achieve, and make sure they understood each other's viewpoints." -TD

"I was one of several senior managers that were involved in selecting our partner, and then of course, on the technical side of overseeing the technical arm of development, and that's been my core responsibility." – TD

Integrating the Decision

"It touches a lot of different areas of the company… so what we did is we took a chap called RX, who was a project manager on an IT project… who had more time to think about the action points, more time to push people along, more time to plan the agenda…" - FD

"We've spent a lot of time sort of honing the sales model and what that would mean from the back office, and defining… we need to do from the order process point of view, in order to process those orders properly, and from an accounting point of view, in order to account for them properly." - FD

EXAMPLES – NLO

Gaining Support for the Decision

"I was involved only at the decision making level, and at the final decision making level about what resources we would invest and how Asia Pacific operation would report into the organisation…" - CEO

"The role is almost to adjudicate, it's to listen to the evidence, to look at the facts before me and then try to move the organisation in one way or another, or try to find the resources, or even if we have the resources, to make the decision to invest the resources." - CEO

"I was involved in the discussion, and the decision making process, but, but not, was not my direct responsibility for, for bringing it to the group or setting it up, or, or opening the office." - COO

"MDL did manage to push it through and to put international as a priority on everyone's agenda" - JD

Investigating the Decision

"We left most of that completely in the hands of MDL, as, as the President of International, and let him, you know, really lead the assessment as well the implementation." – COO

"PDU and I worked separately, but both preparing materials to support a decision to be taken at the November meeting, and we worked on a group of reader heads and you know, proposals and so on, to be put to that meeting and so the ultimate process was that the meeting reviewed those and, and then a decision sort of eventually emerged out of the materials, it wasn't taken absolutely at that moment in the shape of the decision was sort of to emerged a month or two after the Miami meeting." - MDL

"I prepared a market summary document for them, really a sort of analysis of each market, where they were considering basing the head office in…. I was looking at market, the employment system and scalability in markets… mostly Singapore and Hong Kong we were comparing…"- BD

Project Planning

"This was what I wrote at the time, you know, immediately following sort of outlining what it was I was going to be doing for that immediate period, so you know…that was the broad shape of what we were trying to do, setting up an APAC office in which some Pub Com employees would be working… and then personally, my own work, familiarising myself with the market and finally working on sort of actually starting to get some of the logistics in place" - MDL

"I had a pretty clear vision as to what I wanted to do, and basically the first step was thinking about how we were going to use the resources, where we were going to put the people, and that's a critical question, when you are looking at a region like this." - MDA

Building the Decision

"The MDA was the key person who we needed, somebody on the ground, in that area who had experience, running sales teams and offices in Asia Pacific, so I would say that he was the, probably the most important addition and experience needed, and also MDL as President International, he made the appropriate investment decisions, and to bring those decisions back to the EC." – COO

"My role shifted gradually from being kind of one person running around doing everything, to you know, looking at the, the overall business and, and putting my attention towards expanding, basically our presence in Asia...." - MDA

"I had to decide if I needed an office or not...so the first initiator would usually be me I think, and then the second protocol happens, or finance would come back and say, you know, these are the stuff that need to be done, and these are the costs, and then we all look at the costs and we discuss collectively, so it would be me, BD, TX, and the MDA, we would discuss internally in Singapore, and say this is what we need to do and then we bring up the case to the UK during our budget meeting...." - JD

"Once the location and the MDA had been found... most of the other decisions were on the ground, as far as I was concerned, that I was then involved in, which is literally, where do you find the office, which office space to rent, and I became very involved with that with the new MDA" – BD

Integrating the Decision

"Just trying to work out what that meant for us in terms of what we need to do locally, what that means for us centrally, how we're going to manage costs, which office is going to support which piece...it was becoming apparent that there were a lot of complex decisions around how do we support that group effectively, from London and CA, what do we need in terms of website support, data management, what's it going to mean in terms of changed sales reporting, in terms of credit control."- SMD

"SMD has always played a very helpful role...in when you start developing an Asia Pacific entity, it's dependent on the flow you know, making information, sales information, product information, all of these kinds of things, from the existing entities, and SMD is very alert to those things, and he was always doing a lot of work, sort of behind the scenes." – MDA

5.4.4. Three Types of Knowledge Interplay Over Time in Decision Making

THEME SUMMARY

- Three types of knowledge can be brought into the decision process and each manager can use a combination of different types at any point of the process

- **Individual** knowledge: functional, management, and strategic expertise (plus miscellaneous experience); this knowledge is *independent* of the organisation

- **Contextual** knowledge: how culture works, relationships and power levers, culture in environment; this knowledge is *dependent* on the organisation

- **Third party** knowledge: internal (insights from other sources in the organisation) and external (formal and informal sources); this knowledge is *as* a *result of* the organisation

- Individual knowledge can permeate the whole decision making or it can be applied to specific parts of the process

Table 5.6: Theme Four – Summary Points

The interaction of different knowledge types varies during decision making. Each manager is bringing in a different skill set and experience which will be combined with other knowledge in the process. There is contextual knowledge relating to things dependent on organisation, such as knowledge about how things work, power relations and levers in the organisation, and group dynamics. Then, there is third party knowledge. This emerges in decision making as a result of organisation. It comes from internal and external sources, from those who do not have a role in the process. It can come from formal sources (market research, vendors) or informal contacts (colleagues, friends). Insights from teams, committees or

stakeholders, for specific areas of development and supplier knowledge can inform decision making at various points.

Individual knowledge can be split into three sub-types: technical or functional expertise (such as publishing, finance and technology), managerial expertise (such as project and people management skills) and strategic expertise (business development). The CEO and the Chairman may not have functional expertise, and would therefore, rely on functional experts. Technical expertise can, for example, be used with managerial or strategic expertise to generate a decision. These individual sub-types can be combined with contextual knowledge (such as group dynamics and power relations) and third party knowledge (internal or external experts or customers) to make a contribution.

Individual knowledge can be applied in a number of ways. Functional and managerial can be used to develop the platform. Functional and strategic can be used to develop the concept. Managerial and strategic can be used to gain approval for a decision. If some are leading the decision process, others may not be using own knowledge, but supporting the use of knowledge by approving decisions. Still, they can work together and so functional and functional can be used to develop the ontology, functional and managerial can be used to assess the market research, managerial and strategic can be used to gain approval and strategic and strategic can be used to open a new office in a suitable location.

Individual knowledge is independent of the organisation. The managerial sub-type can enable the decision, using contextual knowledge, which is dependent on the organisation, or third party which is as the result of organisational activity. All types of knowledge can be used in a neutral or a non-neutral way. Not all senior managers possess all knowledge, or expertise, in equal measures. Contextual and third party knowledge can influence what is applied in decision making. Senior managers bring in knowledge, but decisions are also influenced by insights gained during the process. Some insights will not necessarily be applied in the same decision episode. The transfer of insights between decision episodes can therefore also influence the application of different types of knowledge.

EXAMPLES - NPD

Individual Knowledge (F/M/S) and Contextual Knowledge

"I would say one of the aspects which I didn't mention as something I was an expert at was... people management.... so working out with SM how to deal with other stakeholders in the business, and when things weren't going her way, how to support her and work through when something, a good conversation, when it's good to do a U turn and open something up." - ED

"Knowledge of how value is created with Pub Com was based on analysis....it's analysis that leads me to understand, that if we are going to get to blueprint on this thing, it's about what is it that's going to persuade the librarian to transact with us, which is not always the same as what a lecturer would necessarily value, what a student would necessarily value, because there are actually some asymmetries in that sort of nexus, that librarian is a key decision taker..." - PD

"In those sorts of meetings, you're trying to draw out everyone's views and make sure you haven't missed anything, whilst also managing to be as decisive as possible and to help lead people through something so that they feel, ok, it's fine, I've given my view." - FD

Individual Knowledge (F/M/S) and Third Party Knowledge

"Understanding how the technology works, with ongoing support for customers.... so was relying on understanding of how the technology delivers that sort of user interface to the end customer.... I consulted both inside and outside. I was particularly interested in this issue of what business model would work, and I did talk with colleagues both within, and outside the publishing company, to really validate what my concerns were about the business model." - LD

"What I did in this instance is he basically took all the advice from DX as to how we should do the revenue recognition, and wrote a whole big paper, and so we just took that and said 'right, fine', so I wasn't gonna argue about it even though some of it I think is completely mad." - FD

"The person that did all, a lot of that consultation was SM. She's done extensive kind of interviewing with librarians and academics, and telling people in the business what's been going on... and it was all of the different relevant kind of stakeholders, this office, the US office, she was kind of doing both, and yeah, so I talked to her and she did a really good job...and they have contributed all of them." - PD

"So we spent a lot of research with end users and understanding them, and through the implementation, we have also....spent a lot of time going back and showing the designs to some of librarians that I spoke with, or end users, and getting their feedback and involving them." – SM

Individual (F/M/S) and Individual (F/M/S) Knowledge

"ED's personal involvement with ontology was very high, and that, that's really good, her history at Pub Com really helped to influence some of the key decisions on what to include and not include in that ontology, or what PX would....head down one path, and wouldn't be sure, ED would be able to look at it from a different perspective, and say, now you know what, I think, I think we should go this way, and so that really helped to influence, I think the ultimate product that we ended up with." - TD

"I suppose my strength is to maybe come up with ideas and to be enthusiastic and energetic about them, without necessarily wanting to go into the detailed mapping of them. ED is somebody who is deeply experienced publisher, deep knowledge of the research methods market, deep knowledge of the library market, very evidence-based, very grounded in her assumptions, not too distracted by the enthusiasm factor, but is really thinking about, well, what is worth wanting, very good on that." - PD

"SM comes in with great expertise at the level of process, how to kind of take a big idea through, you know, which she set out a whole kind of decision making architecture, different steering groups, and different you know kind of groups focusing on the market and then she also brought a lot of insight about technology, and business models, engaging with the question, and doing high quality research to support that question between how much is that a content tool versus a software tool, and even though she is relatively inexperienced, she has enormous skills that very much complement my own." – PD

Individual (F/M/S), Contextual and Third Party Knowledge

"I think that SM who was at the centre of all this, has a particular skills set which is crucial to making this project come alive, an unusual combination of a very systematic approach, and a very personable approach, so she was able to communicate with people, on the personable side she was able to connect and make people feel listened to... but she was also very systematic on managing the project through, and that requires a lot of organisation and project management skills... she has in great degree." – PD

"The other addition is, is just the history of understanding what librarians, students and our customers are looking for in technology, understand the technology today and online platforms, and understanding what Pub Com succeeds with....it was really putting together all the knowledge that we'd built over the last ten years of building products and putting it together for this one product." - TD

"The sales team would be working on what they thought the ideal sales model was, and then we had to work through all the implications of that in the back office team, and then also legal implications of the product, and accounting and revenue recognition implications..." – FD

EXAMPLES – NLO

Individual Knowledge (F/M/S) and Contextual Knowledge

"As far expertise that I brought to the process was, once we had the initial discussion, was helping to formulate the next steps through our operating plan process and critical business issue process." – COO

"It was trying to get clarity on what we are doing, it wasn't specific experience, it was just knowing that you have these messy divisions of who does what, and it becomes very difficult to manage and you just need clarity on what you are doing and it's just generic good business practice." - SMD

Individual Knowledge (F/M/S) and Third Party Knowledge

"I started travelling out there, ands spending a good deal of that first 6 month period out in the Far East in a whole series of meetings with a wide range of different third parties, so potential agents and distributors for our business, potential sales parties, customers, other publishers with whom we had existing relationships, lawyers, real estate people, government bodies involved in supporting third parties... academics, librarians, kind of just everyone who had a potential bearing on my understanding of the way in which the business should be developed in the market..." - MDL

"I think one generic thing that I only have found out, that seems to be consistent across that territory and definitely sort of hit us quite hard early on when we sort of brought customer services over particularly, was just the sort of a different expectation in terms of response." - SMD

"As we plan for the staff and sales revenue, we also have to look at the requirements of each of the offices, and what the tax law requires us to do, do we need to have a registered office or do we need to have a branch, do we need to have a full fledged office, so these were the three questions that confront us when we are actually looking to set up an office, whether it'd be in China, Japan, or elsewhere." – JD

Individual (F/M/S) and Individual (F/M/S) Knowledge

"We hired the MDA that was going to run Asia Pacific office and let him educate us on the rest of the decisions that needed to be made because we didn't have a lot of internal experience, we didn't probably use a wider group, as, as advisors, as much as we normally would." - COO

"I think fortunately MDA did know somebody who would be able to complement him, and so he hired JD....her expertise and knowledge in the journal business made up for MDA himself not having that particular expertise and she, she's done a pretty fantastic job.." - MDL

"It is a collective decision that is being made...even though it's primarily my team that is in the Beijing office, BD, gets an input in it, my MD gets input in it, and then we will discuss with finance, so there would be three

cases, the finance, the consortia library sales director, and the books sales director, and once together with the MDA agree on plan, we then move forward by discussing it with the UK." - JD

"At the point at which we took the initial decision, we believed that we were not in a short term in a position to go ahead representing our own journal sales ourselves... and once I got into detailed conversations with MDA, he started to advocate...that we would be in a position to move ahead with actually taking on our own sales force, and that the third parties we had been assessing to handle sales representation for us were going to be... handling it." - MDL

Individual (F/M/S), Contextual and Third Party Knowledge

"You are ultimately seeking to create in this new location, a piece of business which carries the same attributes, the same business performance, the same values, the vision and so on, as the business you've already been involved in....and then you're seeking to apply the same kind of criteria to it, as you applied to your existing business.....so on the other hand, you also got to recognise that you are now dealing in a different market environment, and so seeking to try to understand the distinctiveness of that market environment, how it works...you are partly drawing on your previous experience, knowledge and expertise, but you are also trying to understand enough about all the local context, to make an informed judgement that says, yes we can do this, this is going to work." - MDL

"Cultural understanding, of marketplace and people there, knowledge of Singapore, Singaporeans, how people work, and how negotiations take place in Singapore.....I think the other, the most important knowledge I probably brought to the whole decision making process was that I'd worked at Pub Com for some years, so I was a link, you know between their new MDA, and later very new staff, and all the experience of the UK and US, and the staff there, and experience they have, fortunately I was able to bring some of that experience and inside knowledge of Pub Com to the local operations." – BD

5.4.5. Synergistic Creation of Knowledge at Decision Level

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THEME SUMMARY

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- Senior managers apply their own knowledge stocks in the decision making process and this stock can be a source of information and new insight to others

- During decision making, each manager gains new insights (new knowledge) but this knowledge is not necessarily applied directly to the decision

- There is not always a like-for-like conversion between knowledge applied and insight generated, since different types of knowledge produce different insights at decision level

- New insights renew the knowledge of individual managers, but the creation of knowledge is at the level of decision, since that is where insights are applied and used as an input

- The insights become part of the decision and can be used to create organisational assets such as new products, processes and documents which can be used for future decisions

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<u>Table 5.7: Theme Five– Summary Points</u>

Each decision process starts with an idea that develops into a concept and a full decision. Most senior managers only have an oversight of the work that is done in each case. They act as advisors, or chair meetings, or deal with political resistance and buy in across the organisation. Some are only in the process for a short period time, managing a team at local level, or collaborating with other individuals and teams across geographical locations. Each senior manager contributes knowledge and experience in different ways and can gain new insights as a result. Different types of knowledge and multiple sources of each type are used in the process which has a variable impact on the shape of the decision.

Each senior manager is often making a contribution without knowing exactly what other senior executives want to see in a business proposal, or what others are doing in individual

parts, or phases of the process. It does not mean that no insights are gained from that contribution, but that it facilitates the creation of knowledge at decision level. To a senior manager, some knowledge will be new and some will not. Through participation in decision making, what is evident in this research is that each manager is updating a part of their knowledge base. For example, a senior manager can have good strategic expertise required to set up an office in a new market, but lack functional or managerial expertise which are necessary to develop an area of the business, or manage the operation on the ground. In such instances, the senior manager can improve their expertise over time.

The application of new insights can therefore renew knowledge of senior managers which will depend on their involvement in each case. Some managers can gain insights about the organisation through application of managerial expertise. This contextual knowledge is updating their entire stock of knowledge and can improve the future application of knowledge in future decisions. In terms of the executive team members, their knowledge enables the decision to be taken in the context of organisational objectives and priorities. But, a lot of the insights emerge at the level of the process, such as a difficulty of doing something, or how attitude to risk could improve. The insights are not in skill per se, but contextual and third party knowledge that contribute to decision development.

The involvement of senior managers at various points has revealed that many new insights do not emerge from the same type of knowledge. Instead, they emerge indirectly. The application of strategic expertise can, for example, generate insights about the organisational context or third parties. The application of functional expertise can highlight management issues, and the application of managerial expertise can identify gaps in functional expertise of teams or the difficulty of integrating the decision into the existing organisational structure. Some insights could only be identified in retrospect in both decision cases. The analysis also revealed that many are trivial by nature. They are not applied to the decision but can, nevertheless, add to the stock of general experience.

EXAMPLES - NPD

New Insights at Group Level - Generation

"We got some very good feedback as a project team, about what different business models deliver in terms of up front revenue versus long term revenue, and it made it clear that we had find at least a solution, to an ownership model, because the, the feedback we were getting was that the market have two different types of funding, and if we only had one business model, we were going to lose out on one type of funding, so that we had to find the solution to the issue of an ownership model." - LD

"What came out of that then was a business proposal which gave an overview of the market research, which also includes a review of what our competitors are doing, a review of what the product should look like... internal implications and the P&L, and how we'd go about developing this product." - SM

"Most important thing from an insight perspective is ontology was incredibly important, and incredibly complex....in an ideal world, we would've developed the ontology probably before we started the product itself, to know what we had there, would've helped to inform content conversion and platform development, and so it was very difficult to build that ontology, not understanding how anything would work, prior to having the ontology." – TD

New Insights at Individual Level – Renewal

"One of the insights has been in development is that we've had this architecture of different groups, and I felt that we need more cross-disciplinary group where there's more communication, and we are all aware of what the issues are, across the different committees effectively" – ED

"It surprised me that she could adopt a stance that was not constructive. We've known each other, worked with each other, for a very, very, long time, and I suddenly realised that I couldn't count on her support as automatically as I thought I could, and so that reconfigured my sense of, to what extent she could be a constructive partner..." – PD

"I suppose what I'd learned is that we can actually do that and if you put the right resources behind it and you give it enough visibility within the company, and people know that it's important enough, you will be able to work through a complex project like this." - FD

"I wasn't totally sure about the dynamics of individuals, or relationships between people, and that has a big impact on, on approving, or not, a new proposal, so it took me quite a lot of time to understand how the company works, and to what extent consultation was necessary." – SM

New Knowledge at Group Level - Apply Insights

"We needed to feed our thoughts into the sales team, and the sales process, and the editorial team, in order to help them with their decision, so that they were coming up with things that were more reasonable to handle in the back office, so things like how we're going to deal with author royalties, and how we're going to deal with subscriptions, or an outright sale of the product." - FD

"When it was first conceived, it was quite 'will, will put some books in PDF form and we'll have a pretty eye-candy interface over it', and actually what we've come up with is a much more powerful product than I think we initially said we were going to do…". - FD

"I think the business models, the type of the product, the ontology is something that I don't think was in an early part of our conception of it… has been a real USP actually of the product, so that is new…it takes the product further along the line we'd intended it to go, as oppose to taking it in a different direction, so it's a higher quality version of what we'd intended to do…" - ED

"Towards the end of this project, I started to work on a project to outline processes and templates for product development…we've now rolled that out across all our other existing online products." - SM

"Three different spaces, that had to connect at one point, you know there is the platform and the functionalities and how that would work with the content being other piece, and the ontology how that linked all the different facets, and without one….the others wouldn't work, and so as we were developing all of this, all these pieces were developing along the way." – TD

EXAMPLES – NLO

New Insights at Group Level – Generation

"Singapore as a location was an insight, I'd assumed we would end up in Japan or China, that that would be the right place, and would be in the middle of the hollow of the greatest opportunity, but for lots of different reasons, legal reasons, geographical reasons, recruiting reasons, Singapore ended up being the best location for the office." – COO

"Building up our view of what the potential was of the markets, which are the ones where we should push harder… getting to understand China more or how the Chinese market works and how, how we have to deal with it because it is a different market, from all other…" - SMD

"We couldn't just transfer the existing model of marketing that we had in the UK or Europe into China, you had to do something different, so understanding what the Asian market needed, I think we definitely learnt more about that and differences." - SMD

"It became clear to me that we didn't really have the right tools in place for making some of the kinds of decisions that we needed to make, so the central decision that was in front of the Asia Pacific operation, as it moved on from this initial implementation, was at what pace should we be adding new sales staff to the business?" - MDL

New Insights at Individual Level – Renewal

"I guess from my perspective, one of the insights was that……not to push to have this be an editorial office, but to focus this office on sales and marketing, to begin with.., from my perspective, I guess I just assumed this would be another full publishing office like we have in the US, the UK…" - COO

"I've been in this business for about 10 years, and so it's something that I know back of my head…I think the greatest insight I had is Pub Com as a company." – JD

"I'm constantly learning about the country here and the basic issues such as interview process in different cultures and interview process of different natives in different countries and languages." – BD

"I hired at all levels, and that created a lot of tension in the organisation later, because I hired the rep, but I also hired the manager who was managing that rep….and if I were doing it today, I would hire the very top people first, and let them choose the next level, or choose the next level together." - MDA

"I learned that there are areas in which you have to get extremely involved in terms of detail, and…I always thought sales could join everything, finance wasn't so important…I really learned about the importance of having a very strong finance team, and that's such a key imperative for success." - MDA

New Knowledge at Group Level – Apply Insights

"There were some significant changes to the shape of the decision, both in terms of it being a company, and in terms of the way London had to be restructured to enable it… so those were the two big inputs from the, in the decision-taking phase that led into a dramatically different implementation process to the one that was envisaged at the beginning." - MDL

"At the same time as building the Asia Pacific, we were also building sales capacity in Europe as well, so the two were sort of going on in parallel in trying to gear up customer services to move away from being a business group that supported a subscription model into being a group which had account managers and the capabilities to support the sales model and package sales…" - SMD

"We had a clear action plan of what we were going to do, and we did it, with one significant change that we changed our mind about how we were handing the journal sales operation piece, and that was a significant change in the right position…it just became clear that as we were working through that we had potential to do something, a bit more ambitious than we had originally committed to." MDL

"We eventually created a whole decision template for how people should approach the proposal to add a sales member, and it has to show a three year timeframe in which they are showing how their sales are expected to grow… to enable an effective assessment of proposal to add a sales member and now.. it makes it easier to make rational decisions about how we move these things forward over time." – MDL

5.5. Reflection on the Decision Cases

The novelty of strategic decisions highlights why the interplay of knowledge stocks cannot be anticipated in advance. The factors acting upon the interplay will include different types of knowledge, interests and priorities from a wide range of stakeholders and insights that emerge from the participation in the process. The value of knowledge as an asset is not solely determined by the position on an organisational chart, or by the decision topic. A strategic decision can begin with a lack of knowledge and still be successful in the long run. The dynamics within the decision making process appear to 'guide' senior managers as they draw upon existing knowledge and resources which can develop over time.

Strategic decisions do not all require the same amount of planning and are not always difficult to make. NLO was a late, but simple decision. NPD was a timely decision which required more planning. Both were made before being formally approved by the EC and the BOD. The CHA and the CEO were fully supportive of both decisions studied. As long as the research answered all the questions, the decision would be given the go-ahead, even if there was a lack of experience, or internal resistance from less senior managers. The extent to which the decision is developed at go-ahead is not the same, which will have variable implications for the work done in the implementation phase.

The analysis was able to identify the point at which each strategic decision enters the formal process. However, the exact point of initiation is not clear. An informal pathfinder precedes the formal discussions, financial investment and actual work on the development of the initial concept. In each case, the decision was already informally agreed upon, before it entered the formulation phase, under condition to conduct further research and assessment to prove the case. There is no reliable way of knowing when the informal agreement starts, unless one of the senior managers specifies. But, it is possible to identify when a decision enters the formal process. Until then, it remains only a concept.

Some political use of knowledge can be anticipated given previous decision making, such as the CEO gaining approval from BOD members. New insights, such as resistance from an

executive, can make the use of knowledge more political. In such cases, knowledge will be used to persuade or mobilise others to do the work. But, as long as the CHA and the CEO are supportive of the decision, the resistance from other sources can only be sustained for a limited period. At the same time, the insights that are positive could be used to remove obstacles that stand in the way. For example, as the benefits of the decision become clearer, these can be used as tools to make a stronger case for decisions. If utilised in the right way, the informal dimension of the process is of value to the decision.

Senior managers with stronger personalities can push decisions through, with or without having the knowledge required to back the decision. In some cases it can lead to conflict, which in turn, impacts working relationships and the contribution of others. In senior management meetings there is then groupthink to consider, and how who speaks first impacts the discussion and what issues get attention. Conflict can occur between knowledgeable and experienced senior managers, which stems from looking at an issue from different angles, or two offices having a different preference. There is an ongoing question of how to deal with gaps in knowledge, and which will vary across cases.

Decisions provide alternative growth strategies, and are pathfinders for future decisions, given the limitations to what existing products can deliver. This crystallises through the process of decision making. It can take a long time for new expertise to be created, and one decision case is not be enough for that to happen, as only a fraction of time is allocated to the decision. For most, the participation in decision making reminds them that things are more difficult than expected, more complicated, that big decisions take more time than planned, and that winning the hearts and minds of people is a never-ending process.

The decision episodes, as the most identifiable units framed the analysis. The decision structure was outlined and the main similarities and differences between the cases were highlighted. The analysis of knowledge use was divided into an explanation of the approach to assessment of contribution, the variability of involvement, the patterns in the emergence of new insights and the application of knowledge and insights during decision making. The emergent themes were summarised and examples given based on the categories of data identified. The next chapter will discuss how the findings build on and challenge theoretical debates that address the exploitation and development of knowledge assets.

6. DISCUSSION

6.1. Introduction

The ideas on the dynamics of knowledge assets have underpinned a new empirical inquiry into the application of knowledge in strategic decision making. To date, a macro level focus on the sources of value creation and competitive advantage has limited the contribution of RBV in practice. The seminal ideas on the accumulation of heterogeneous resources have informed the thesis of KBV scholars to advance the argument that knowledge is the most valuable resource. Organisations are conceptualised as repositories of knowledge with a capacity for aggregation. The value of knowledge as an asset can be assessed in a number of ways. The insights from the strategic decisions studied contribute to those debates.

This research has revealed that knowledge is used to turn an initial concept into a decision. By using senior managers as central points of all knowledge articulation, the findings also highlight that power becomes a central feature of the decision making process during the initial framing phase. Knowledge use is a function of the decision topic, which influences the application and the interplay of three types of knowledge.

Another key finding of this research is the value of complementary expertise in and across decision episodes. This can lead to the generation of insights that, in turn, influence the development path of each decision. The application of insights, or new knowledge, also influences the accumulation of knowledge as an asset. Some knowledge helps to keep decisions on track; other knowledge advances the work in all phases of the decision.

Decision making is a knowledge-creating activity. Knowledge can accumulate in volume terms, but the information flows that connect knowledge stocks help to turn knowledge into a strategic asset. The heterogeneity of knowledge develops through the process of decision making and this research proposes what happens in practice. By focusing on the interplay of knowledge assets in the production of strategic decisions, this research can be used to explain the value of knowledge relative to the topic and managerial involvement. Strategic decisions that are built and integrated into existing organisational systems, processes and structures can contribute to the development of dynamic capabilities.

6.2. The Development of Heterogeneous Knowledge Bases

In current research, the value of knowledge stems from its ability to adapt, evolve and change due to the impact of multiple information flows. The findings suggest that the interplay of knowledge assets over time contribute to the development of heterogeneous knowledge bases. The thesis of RBV scholars highlights the difference relative to value-added, but not the sources of heterogeneity as noted by Winter (2003) and Prieto and Easterby-Smith (2006). That the application of resources, such as knowledge, is value-adding, accords with Wernerfelt (1984), Barney (1991), Peteraf (1993), Boisot (1998) and Teece (1998). The interplays, this thesis adds, can begin to modify or extend the organisational knowledge base through the emergence of insights at decision level.

Knowledge is treated as a structure, which builds on information. This view draws upon definitions proposed by Boulding (1966), Boisot (1998) and Langlois (2001). A knowledge asset is a stock of knowledge which can change in form and structure when applied in local context. This conceptualisation is different to focusing on the conversion of knowledge as proposed by the theoretical frameworks of Nonaka and Takeuchi (1995) and Spender (1994b, 1996a). The analysis in this research is focused on the asset, and the findings reveal that the value of managers' contribution stems from their *collective* ability to derive information from the data most relevant to the decision. The contribution is not only based on existing knowledge and experience of those who take part in the process. Rather, as the data reveal, each manager 'finding' a way to make a contribution relative to others.

The decision making process provides a transactional space, in which knowledge is exchanged and applied across decision episodes. Some knowledge is processed, and used to inform the work related to decisions. However, given the characteristics of strategic decisions, this research has found that new knowledge is also created through the interplay of knowledge stocks in decision making. This interplay is an alternative to those proposed by Nonaka and Takeuchi (1995) and Spender (1994b, 1996a). The difference stems from the definition of knowledge and an alternative distinction between types in practice. The asset is a dynamic structure which contains both – tacit and explicit - elements and the creation of new knowledge, this thesis argues, can influence the value of the asset.

6.2.1. Decision Making is a Knowledge-Creating Activity

Strategic decisions - by nature - rely on the exploration of new concepts and ideas. The information flows enable two modes of learning that can lead to novel applications of existing knowledge assets as highlighted by Kogut and Zander (1992) and Boisot (1998). As knowledge develops over time, it can become more, or less useful, as noted by Leonard-Barton (1992) and Teece et al. (1997). Each decision draws upon many sources of knowledge which can renew existing routines and practices, or become embedded in the heads of individuals. This accords with scholars such as Winter (1987), Levitt and March (1988), Nonaka and Takeuchi (1995), Grant (1996a), Spender (1996a) and March (1999). However, the topic and the timing of each decision also seem to influence the extent to which some resource modifications are necessary to support the current process.

Decision making is a learning process which is characterised by incremental steps. The decision topic, arguably, defines the transactional space, but it is the steps which largely influence the value of knowledge assets that are applied within it. Incrementalism was described as a process by Lindblom (1959) and Quinn (1980) who also recognise its informal nature. The data suggest that it is during informal discussions that knowledge is infused with interests and preferences of the dominant coalition. The coalition in this research includes board members as well as the senior management team that approves decisions. In such a way, knowledge assets can lose their neutrality as an organisational resource. Boisot (1998) recognised the political use of knowledge in his framework, but remained focused on processes that develop knowledge and make it more strategically valuable to organisations. Senior managers, this thesis argues, are central points of all knowledge transfer and application, so that loss of political neutrality is not a trivial matter.

Learning is not a definitive end, but a continuous process. The learning mechanisms as proposed by Zollo and Winter (2002) are evident at decision level. The trajectory of key knowledge developments can inform further enhancements. The data in this research highlight how information search and knowledge processing remain necessary features of decision making in organisations. The many studies of March and Simon continue to provide a sound basis for further development in the field.[91] But, it is the characteristics of

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[91] See for example March J G and Simon H A (1958), *Organizations*, John Wiley and Sons Inc, March J G. (1988) *Decisions and Organizations* Basil Blackwell and Simon H .A. (1997), *Administrative Behaviour* (4eds), Free Press

strategic decisions, as outlined by Wilson (2003), which help to explain how decision making is also a knowledge-creating activity. The novelty of each decision and the problem it is solving means that new insights will emerge and at least some of the insights will feed into the work on the decision. The sources of heterogeneity can, therefore, be attributed to co-evolving combination of situated interplays which generate the insights.

The value-added factor varies by episode and managerial involvement along the decision development path. The application of knowledge seems to be different at various points during the decision process. This is a major finding that emerged from the cases in this research. It takes Spender's (1994b) arguments on board, and recognises that application varies by context, but it delves deeper into the context to reveals the extent of this variability. By focusing on information flows as Boisot (1998) had previously emphasised, the research assessed how knowledge accumulates; not only in volume, but as an asset. In decision making, insights that emerge can be used to assess the resource requirements, make smaller decisions, and determine the scale and scope of the central decision. But the list is not exhaustive and how a decision is treated in relation to other decisions would be an important question for further research on larger samples of strategic decisions.

6.2.2. A Mechanism for the Development of Dynamic Capabilities

The transfer of knowledge connects the work of teams across decision episodes. It is enabled by the social interactions of individuals (and their knowledge assets) which are potential sources of dynamic capabilities. This is highlighted by the theoretical work of Prieto and Easterby-Smith (2006). The creation of a new product or a regional office, for example, can be used to inform similar types of future decisions. The more critical insights can develop through further exploration or inquiry. This research has found that the actions of senior managers can significantly influence the decision shape. Smaller decisions that are made (and built) in the process will therefore be the key points of difference that separate one cumulative path of knowledge from another. This difference in the accumulative path of knowledge during a strategic decision process, will contribute to the creation and development of heterogonous knowledge bases between organisations.

The value of knowledge assets, therefore, needs a basis for identification. It would seem that without also considering how a piece of knowledge relates to other knowledge and resources, the claim that knowledge is the most strategic asset remains questionable. The

current data indicate knowledge to be more of a dynamic than a fixed asset in strategic decision making. This dynamic implies that, as senior managers allocate time and other resources to activities in decision episodes, some recombinations of existing knowledge assets may be required in the process. The finding accords with theoretical ideas proposed by Prieto and Easterby-Smith (2006, 2008) and Teece (2007, 2009). The data also suggest that both, the development of individual knowledge assets and a renewed product development capability are important outcomes of such recombinations over time.

In the decision cases studied, the interplay of three types of knowledge is the basis of new knowledge creation. This knowledge contributes to organisational learning, which accords with the theoretical work of Penrose (1959) and Cyert and March (1963). But, the current findings also reveal that the path-dependency argument has limitations in practice. Once the work commences on the individual parts of central decision, the context of knowledge application widens to include units and teams, often in multiple geographical locations (e.g. Martin and Eisenhardt 2010). The configuration of existing knowledge assets can therefore change beyond the decision process, as proposed by Teece and Pisano (1994), Teece et al. (1997), Eisenhardt and Martin (2000) and Helfat et al. (2007). This research contributes to that stream of theoretical debates by studying the dynamics of knowledge assets and proposing *how* reconfigurations potentially emerge out of the decision process.

Strategic decisions deal with critical business development issues and new knowledge is often required to find solutions. Decision making is dynamic (see e.g., Markides 1999; Pettigrew 2003) and insights about solutions to problems can emerge before the decision is approved by the executive team. The process draws upon a wide array of resources to build and to integrate a decision into the organisation. The data indicate that creation of new knowledge is not always planned, which means that the constraints placed on the senior managers by existing organisational experience, as featured in the theoretical works of March and Simon, can in practice shift to a degree. Information is not simply processed and used in the analysis of a decision, but as shall be seen shortly, it is used to renew existing knowledge assets, which makes them more valuable during the process.

6.3. Overview of Knowledge Utilisation in Decision Making

The definition of knowledge as a structure was used as a founding block in the analysis of what remains a problematic concept. This research has not attempted to resolve the problem, but propose an empirically-grounded perspective. The placement of individuals at the centre of decision making highlights the continued importance of theoretical work conducted by Grant (1991, 1996a). However, the cases indicate that the role of individuals is not only to specialise, but to contribute to knowledge creation at decision level. The new knowledge could be used in the current process, or to develop dynamic capabilities, as highlighted by Helfat et al. (2007) and Augier and Teece (2009). In the process, organisational routines suggested by Cyert and March (1963) and Nelson and Winter (1982) continue to exert influence on the application and sharing of knowledge. This makes knowledge processes system-dependent, which accords with the theoretical works of Winter (1987), Spender (1996a) and Kogut and Zander (1996). The implication is that the development path of the same decision type is likely to be different between organisations.

This research confirms that each decision process draws upon different types of knowledge which are recognised by many scholars such as Starbuck (1992), Nonaka (1994), Spender (1996a), Boisot (1998) and Eisenhadt and Santos (2002). However, not all decisions are based on knowledge and analysis. In NLO, the decision on restructuring was not based on the analysis of the opportunity in a new region, but on a combination of experience, personal desires and need. The decision on the location of the office was only finalised with the hire of the new MD. These were all smaller decisions, so when the argument is made that the (central) decision is rational, it overlooks the non-rational parts. Each decision relies on an incremental process of resource allocation, including knowledge, as proposed by Lindblom (1959) and Cyert and March (1963). As Nutt (1984) highlighted, senior managers tend to rely on analysis more in the latter stages, such as evaluation, than they do in the formulation of the problem. The data from this research suggest that in the absence of knowledge, more information will be analysed by the senior management team.

6.3.1. The Application of Knowledge in One Decision Episode

The decision cases reveal that three types of knowledge can be applied in two types of episodes. The *internally-focused episodes* support the approval and development of the central decision. The *externally-focused episodes* focus on key decisions to be made. Each episode is a system of (social) practice which is a theme explored by Spender (1996b) and Hendry and Seidl (2003). Each episode arguably also has its own local rationality as highlighted by Cyert and March (1963). The local rules influence managerial involvement, but the objectives set for the central decision continue to guide the work in each episode.
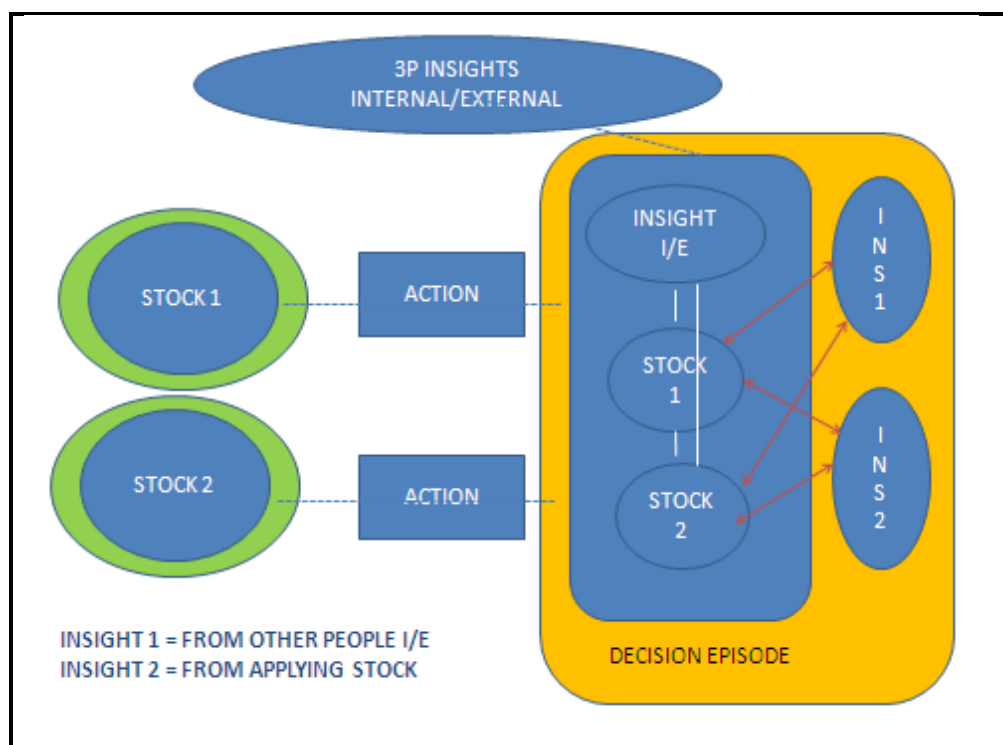
Figure 6.1: Knowledge Application in a Decision Making Episode

The outline of knowledge application in decision making is illustrated in Figure 6.1. The individual stock could be contextualised to a high degree, i.e. it is attuned to the context. Or, as is the case with recent or new managers, the stock is less contextualised. The contextual knowledge is brought into the process through the knowledge stock of each senior manager (green in the diagram). An insight is a novel finding, relative to the decision. *Type I* is the result of contribution from third parties (3P). *Type II* insights are the result of senior managers central to the process applying their own knowledge stock.

Each insight has the potential to renew the individual stock in a decision episode (red arrows). The importance of insight has been recognised by scholars such as March (1991) and Boisot (1998), and more recently by, for example, Miller el al. (2006) and Raisch et al. (2009). However, studies of decision making remain silent on the application of insights *during* the process. The data reveal that both learning-by-doing and learning-by-insight exists in a more localised form which makes insights specific to that context.

6.3.2. The Application of Knowledge Across Multiple Decision Episodes

The research proposes that the episodes are the building blocks of strategic decisions. The differences between them influence the involvement of senior managers. In contrast to decision making studies which focus on (bounded) rationality, management influence and politics as key indicators of knowledge use, this study assessed the application of the resource.[92] This alternative, however, does not ignore the conclusions made by scholars such as Mintzberg et al. (1976), Wilson et al. (1986), Eisenhardt and Bourgeois (1988), Dean and Sharfman (1993) and Langley et al. (1995). Rather, it highlights the importance of information flows which mobilise knowledge application and influence the rational and political dimensions. The complexity of the interplay also implies that the outcomes can only be assessed at decision level. Therefore, this thesis argues, it is a net-like application of knowledge which is contextually constrained that needs to be understood.

The senior management lead the decision making process and the contribution of each knowledge stock changes as the decision unfolds. The importance of strategy teams and links to the corporate centre is evident in this research and is recognised by the studies of Johnson et al. (2003), Jarzabkowski (2005), Whittington (2003, 2006) and Paroutis and Pettigrew (2007). The difference is the analytical focus on knowledge (assets), instead of managerial actions. The same action in two episodes can produce a different outcome. It can push forward, or obstruct knowledge application which influences, as Pettigrew (1997) argued, unfolding events over time in context, and therefore, generation of new insights.

This research reveals that most of the decision development occurs during the implementation where interactions between teams intensify. The view of the process as a series of smaller decisions is also different to decision models and routines suggested by Mintzberg et al. (1976). The influence of routines can be weaker once the decision is given

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[92] See for example, Pettigrew A M (1973), *The Politics of Organizational Decision Making*, Tavistock, and Eisenhadt and Zbaracki (1992), *Strategic Decision Making*, Strategic Management Journal, 13, pp 17-37

the formal stamp of approval. It also becomes more difficult to assess the contribution of individuals each time knowledge is applied. However, by focusing on the interplay relative to an episode, this research uses local context to make such an assessment. This is in contrast to the work of most RBV scholars who have treated knowledge as only an input into organisational activity, and overlook the development of resource heterogeneity.

The findings add further insight to the conclusions of empirical studies by scholars such as Langley (1990), Dean and Sharfman (1993, 1996a), Fredrickson and Mitchell (1984) and Papadakis et al. (1998). Analysis does not determine a decision, but supports it. Some decisions are more rational than others, even in the same strategic decision case. The experience and the influence of power as suggested by Mintzberg et al. (1976), Eisenhardt and Zbaracki (1992), Rajagopalan et al. (1993) and Langley et al. (1995) were present in both decision cases; in particular, where there was political resistance and conflict. The contextual factors such as group dynamics and power levers exerted influence at critical decision points. In NPD, for example, it made the application of knowledge more political during the decision approval episode. The research and assessment episode was more analytical. Each was dependent on the insights from the other to develop the decision proposal, gain organisation-wide buy-in and inform the decisions in the implementation.

The view of decision making as a number of episodes adds granularity to analysis of knowledge application, and its value as an asset. There are a few simultaneous sequences, and participation is ad-hoc for most senior managers. Therefore, this thesis argues, that each decision requires analysis at a less macro level than the RBV offers by treating knowledge as one of the resources. The strategy-in-practice scholars that examine the work of strategy teams have made some progress in that regard. But, no two research episodes will require the same degree of consultation, or analysis between decisions. It sheds light on the *relevance* of knowledge stock, as opposed to quantity, and can help to explain the inconsistencies in conclusions derived from previous decision making studies.[93]

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[93] The extent of rationality and the use of politics during decision making, for example, relative to decision or firm performance was found to vary between studies and authors, Refer to Appendix 1 for examples.

6.4. The Interplay of Individual Knowledge Assets

The view of individual knowledge as a capsule of interlinked knowledge assets adds flexibility to the analysis of their application, development and value. In doing so, it challenges the dichotomies that remain dominant in literature. However, it does not minimise the contribution of scholars such as Nonaka and Takeuchi (1995) and Spender (1996a). The conversion between tacit and explicit types and their interplay across levels of application remain important to understanding knowledge creation. This research, by proposing the capsule of knowledge assets, highlights the potential value of complementary expertise in decision making, as opposed to 'types', or importance of one type over others under all conditions. The data reveal that at any point, a combination of individual knowledge assets can select what knowledge is important relative to a decision. Some knowledge which is facilitating decisional activities can emerge from socialisation processes as noted by Spender (1994b, 1996a). Through knowledgeable intervention individuals can change the configuration of knowledge assets beyond the decision context.

The social interactions of individuals and their knowledge assets can produce insights that build decisions. An example is the restructuring decision to support expansion into a new region. This is in contrast to Simon and March (1958), March and Cyert (1963) and March (1999) who question the ability of individuals to rise above organisational experience. Senior managers can significantly influence the shape of the central decision, but the contextual and third party insights can place constraints on the application. The work on each decision, nevertheless, can renew knowledge that imposes constraints on immediate development and make the organisation more innovative in the process (Boisot 1998). The studies of Teece and Pisano (1994) and Helfat et al. (2007) have highlighted how coordinated search procedures can lead to new patterns of activity and thinking within organisations. This research adds to debate by contributing insight on how such new patterns could potentially develop through the process of decision making over time.

6.4.1. The Knowledge Capsule and its Application in Decision Making

The interplay of knowledge assets is central to this thesis. Each element of a knowledge capsule – functional, managerial and strategic expertise – can interplay with the same elements of other knowledge capsules. For some senior managers, each knowledge capsule is made up of managerial and strategic expertise only. Table 6.1 provides definitions of the knowledge types that can interplay. The types of expertise are not new, but the findings challenge some conclusions by scholars such as Dierickx and Cool (1989), Barney (1991), Castanias and Helfat (1991), Starbuck (1992), Leonard and Sensiper (1998), Decorolis and Deeds (1999), Foote et al. (2002) and Hatch and Dyer (2004). The findings propose that all three types of expertise are present at any point of application in the decision process.

Definitions of Knowledge Types

Functional expertise: technical know-how (e.g. marketing, finance, publishing)

Managerial expertise: general management (e.g. HR and project management)

Strategic expertise: strategic direction of the organisation (e.g. business development)

Third party: formal and informal insights from outside the decision making process: internal (experts, committees, colleagues) or external (suppliers, customers, partners, informal networks, friends)

Contextual: knowledge of how things work inside the organisation, organisational history and context, group dynamics and power levers, project-specific knowledge

Experience: done or seen before things not necessarily in current role or organisation, insights from graduate and executive education programmes, miscellaneous

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Table 6.1: Different Types of Knowledge Applied in Decision Making

The utility of each knowledge stock can be assessed in relation to other knowledge stock, which makes such an assessment context and time-dependent. The product of that interplay can be an information exchange, an insight, a decision, or work done. To a

degree, this alternative view accords with the thesis of scholars, such as Grant (1996a), Boisot (1998) and Teece (1998), who argue that the accumulation of knowledge is not the most important goal. Furthermore, the experience element, as defined, can be applied in the process and make expertise more valuable. Through its inclusion, the research highlights that any view of knowledge and the assessment of its value is incomplete. It accords with Teece (1998) whose theoretical work on knowledge assets recognises that knowledge is grounded in the experience, as much as the expertise, of senior managers. The managers can develop routines at strategic level as a result of that experience which accords with Augier and Teece (2009). The finding highlight that the coordination of knowledge assets and learning can be achieved without having concrete expertise. The experience element influences the development of the knowledge capsule in the process.

Key:

Orange = F = functional; M = managerial; S = strategic
Blue = knowledge capsule (connects F, M and S)
Green = local context (contextualises application)
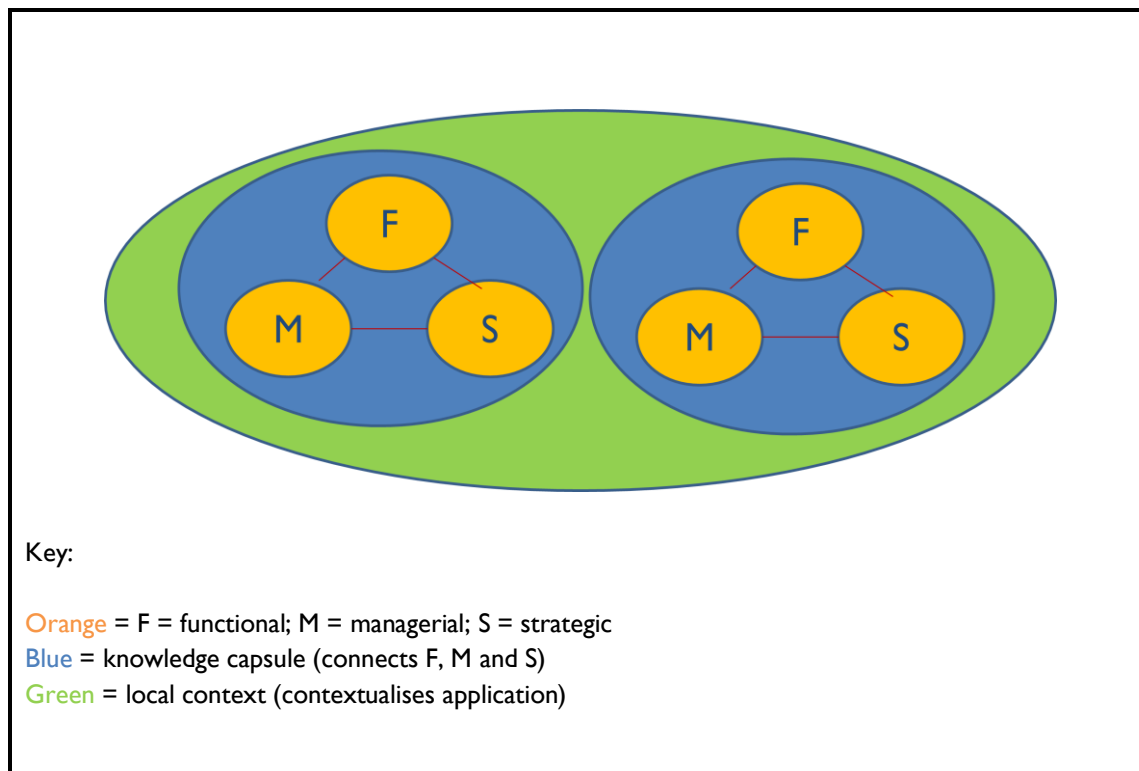
Figure 6.2: Two Conceptual Knowledge Structures in Local Context

The knowledge capsules look the same, as illustrated in Figure 6.2, but each is a structure subject to change. This structure is tacit and non-observable. It is only through application that its value can be observed in action. Tacit knowledge is recognised as the most

important by many scholars such as Polanyi (1966), Berry (1987), Winter (1987), Nonaka (1994), Leonard and Sensiper (1998), Ambrosini and Bowman (2001), Langlois (2001) and Brockmann and Anthony (2002). Through interplay, this thesis argues, the tacit element of each knowledge capsule can become explicit and diffuse more easily within a team, as suggested by Boisot (1998). The arrival of new information through that interplay can make some knowledge tacit, again. In such a way, the interplay – through experience - has the potential to change the balance of expertise, and the utility of each knowledge stock.
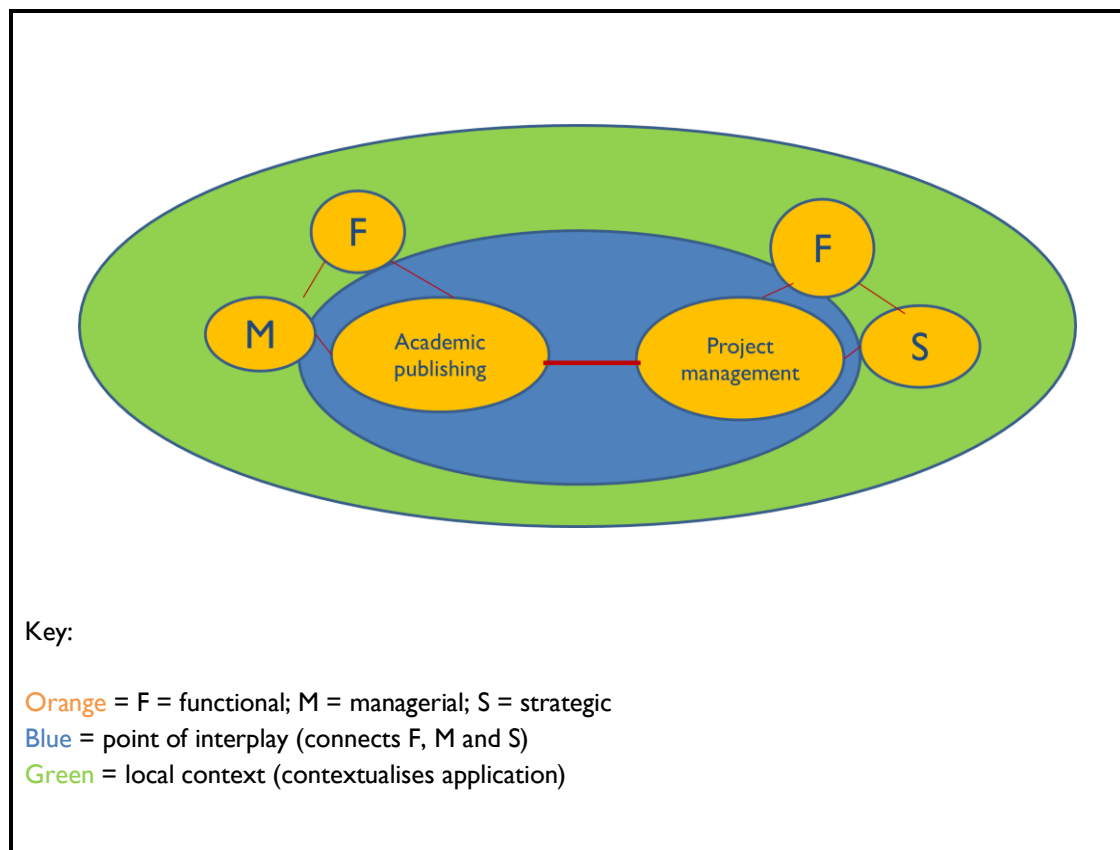
Figure 6.3: Application of Two Stocks of Knowledge during Market Research and Assessment

The proposed view of knowledge indicates that each type of expertise is more or less developed - codified and abstract - at the time of involvement in decision making. This difference in the form and structure of knowledge assets is explained by the theoretical framework of Boisot (1998). It suggests that any knowledge asset can be applied *and*

communicated to a degree, at various decision points. However, it is not a simple case of interplay taking place and a decision being made right away. The interplay can be a process that extends over a period of time, before producing any results. In the meantime, the same knowledge asset may interplay with knowledge assets in other decisions and influence the extent of the contribution in the current process. This introduces a complication in the assessment of value, but it also highlights a key dynamic of knowledge. To an extent, the value-added lies in its capacity to simultaneously adapt to multiple local contexts.
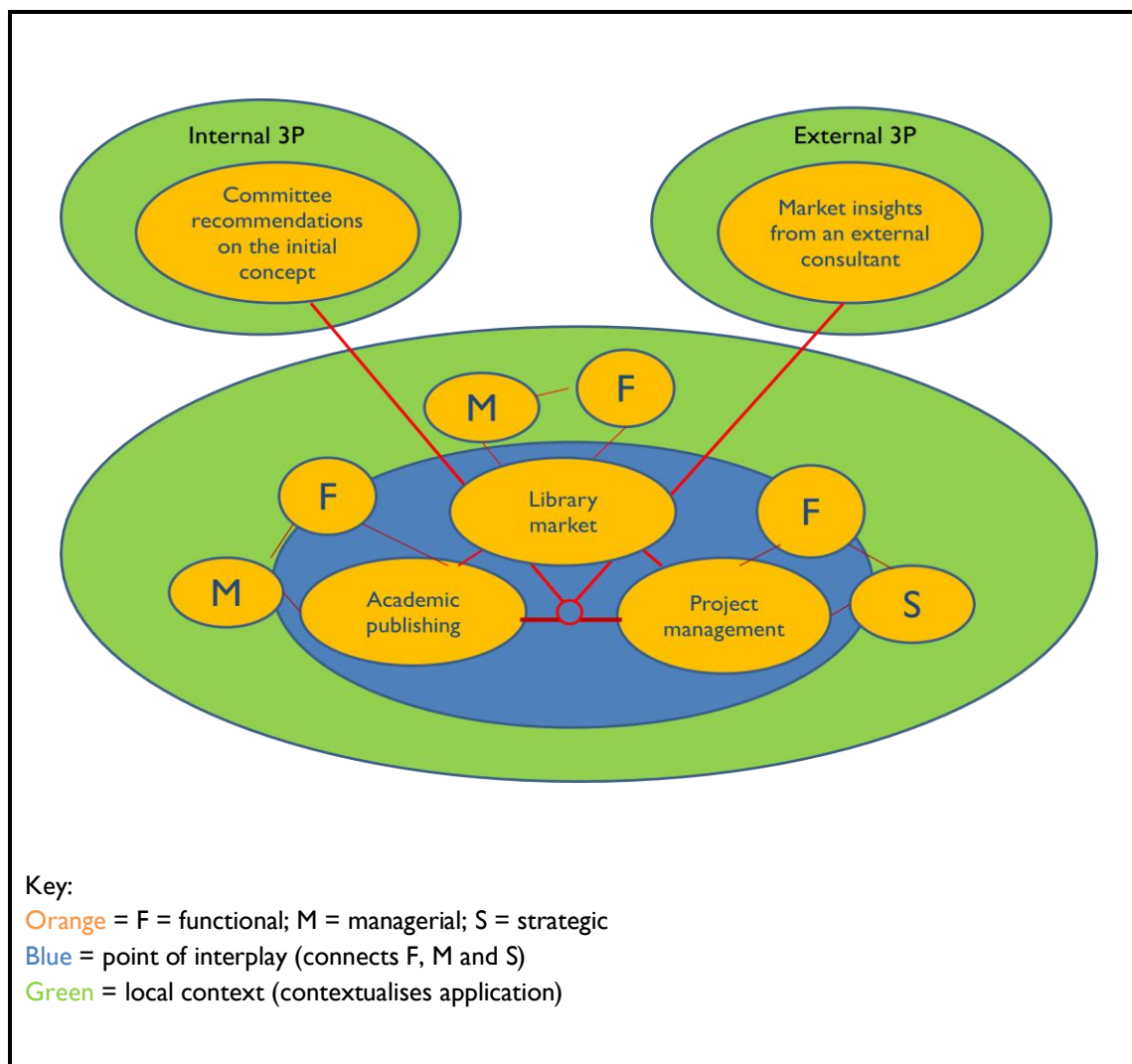
Figure 6.4: Application of Three Stocks of Knowledge during Business Proposal Development

The minimum requirement for interplay to take place is two knowledge stocks. Each one is contextualised to some extent. Figure 6.3 gives an example of the interplay in the market research episode. ED contributed strategic expertise to help SM who applied managerial expertise to lead the market research and conversations with third parties in the library market. As the episode unfolded, SM was applying managerial expertise and working with PD and ED to develop the business proposal who contributed strategic expertise (see Figure 6.4). The central interplay drew upon third party insights to develop the business proposal, and contextual knowledge to facilitate internal consultation on its development.
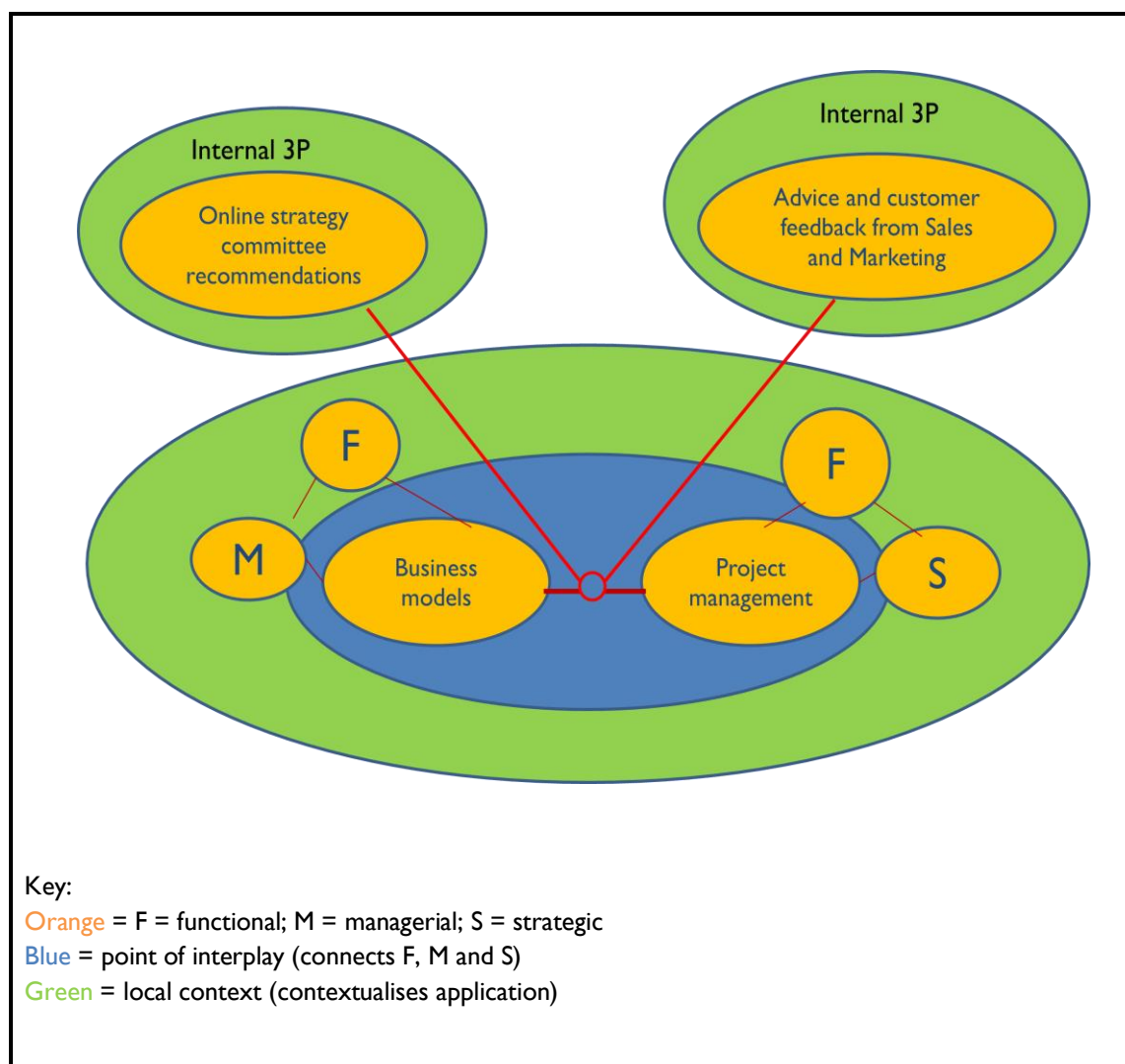
Figure 6.5: Application of Two Stocks of Knowledge during Discussions on Business Models

The interplay between LD and SM (see Figure 6.5) informed the discussions and the decision on the business models. The decision, however, was an outcome of multiple interplays over time. The pattern was found to be similar in other episodes, but the knowledge asset which is applied can be different for the same stock. The data suggest that with higher involvement of interests, the depth of interplay is likely to decrease and the more abstract are the contributions for each stock. The abstract element in this research is concerned with the guiding principles that find general application, as opposed to particulars of any decision, resolved in smaller groups with a set of specific tasks and objectives. The coverage of the relevant field is arguably wider at the point of interplay. In this research, the outcome of such interplays was found to inform the work in individual episodes.

The interplays illustrate that the knowledge capsule does not determine the value of its own contribution. This echoes arguments made by Penrose (1959) that make a distinction between different uses of resources, such as knowledge, which are determined by the decision on how those resources are allocated. However, this research also highlights that knowledge is a variable factor. Decision making relies on the cooperation and coordination of a bundle of knowledge and resources across episodes, as outlined by Grant (1996a); and over time. The importance of coordination and integration is also highlighted by scholars such as Helfat et al. (2007) and Teece (2007). But, is more knowledge better (and in which ways), or can the same be achieved with less (or a lack of) knowledge?

The development of NPD proposal was based on a wider range of knowledge sources than NLO, and the stock of available knowledge and experience was greater at the onset. It did not mean that decisions were made faster, as illustrated by the decision on the business models. Some decisions in the implementation took a long time to build even with a range of expertise in the process. NLO was approved with a less developed proposal and lack of experience, despite being a riskier investment. To deal with obvious gaps in knowledge, an experienced senior manager was appointed to manage the new regional office and inform decision making at corporate level. Smaller decisions relied on a greater stock of local knowledge, but some were still difficult to make. This was due to a difference in approach to decision making, not only external factors that placed limits on what can be achieved.

The decision cases highlight that there is not a single right approach to decision making, not even in the same organisation. As Spender (1996b) pointed out, it is not about abundance versus the absence of knowledge. Rather, it seems to be about integration. The interplay

highlights that what potentially matters more is that the contribution of knowledge assets is complementary. There appears to be less conflict and decisions have the support and commitment from all the relevant groups, or third parties, inside or outside the organisation. Recent studies of Gardner et al. (2012) and Majchrzak et al. (2012) have highlighted the importance of resolving cross-functional knowledge differences and integrating knowledge within teams to support performance. The value of each knowledge stock can further be assessed according to the extent it complements others in the process.

6.4.2. The Value of Complementary Expertise in Decision Making

Strategic decisions are novel and deal with problems where relationships are not obvious and data are often unavailable. Rationality has limits in that regard. In focusing on the interplay, this research makes a departure from a single knowledge asset, or a type of knowledge, as a source of value. The findings reveal that knowledge is not necessarily additive. As stocks of useful knowledge increase, the services of other resources do not necessarily improve. This contrasts with the thesis of RBV scholars who argue that knowledge accumulates and that more knowledge is better (in terms of positive organisational outcomes and decision performance). Rather, application is based upon a system of knowledge types and processes, only the classifications are different to those suggested by Spender (1996b). Contextual and third party knowledge are applied *through* individual knowledge assets, unless a third party has a role in the decision process.

The value of complementary expertise can be anticipated in advance of application, but it only becomes evident when a team is working through a decision. The empirical study of Helfat (1997) makes this point to a degree, but focuses on technological knowledge and other assets. This research has identified the *type of expertise* (e.g. strategic and managerial expertise); the *degrees of expertise* (e.g. two can be capturing different elements of business development) and *gaps in knowledge* in the team (e.g. lack of functional expertise in the finance or journals business). In doing so, it does not focus on the continuous dialogue between (complementary) tacit and explicit knowledge as Nonaka and Takeuchi (1995) have done. Neither does it claim to capture all interplay during decision making. But, it adds to knowledge debates by proposing that through interplay different types of expertise can change in form and structure; for example, managerial expertise can improve strategic expertise. If the expertise is complementary, these conversions can be better supported, which can increase the value of the interplay relative to decision requirements.

The complementarities of knowledge assets, the findings suggest, keep the decision development on track and generate new insights. This builds on the knowledge integration point suggested by Grant (1996a, 1997) by adding that knowledge is not sufficient on its own to support the claim that it is a strategic resource. It is further supported by case data which indicate that a lack of knowledge may not matter in all instances. The decision can be made and developed based upon the knowledge stock that is already available. But, even if the experience is lacking, the decision can still be successful which accords with the empirical findings of Miller (1997), Miller et al. (2003) and Hickson et al. (2004). In this research, a lack of knowledge was not found to prevent the decision from being taken, but it did mean that greater search activity became a feature of the decision making process.

The type of decision can exert significant influence on how the knowledge capsule might be mapped out over time. Technical innovations will rely on specific functional expertise to a large degree. Strategic developments, such as acquisitions will rely on more strategic expertise. In between there are new products and regional development, studied in this research. More political decisions and those that require input from many business areas are likely to rely on managerial expertise to a greater extent. The more complementary the expertise is relative to other stock, the better it is for decision outcome. The range of decisions and knowledge requirements associated with each demonstrate the need to ensure that the right individuals are involved (i.e. those who can contribute relevant and pertinent knowledge). This appears to vary significantly by decision topic in this research and most probably, by organisation (this would be a topic for future research).

6.4.3. Knowledge is Utilised to Generate a Strategic Decision

This thesis proposes that knowledge begins to add value when one or more stocks initiate the formal decision making process. At that point, the team has arguably identified an investable opportunity to pursue and can decide on further resource allocation, which accords with Teece (2007). Figure 6.6 serves to illustrate that knowledge assets of the executive team interplay over time and each can draw upon internal or external third party expertise in the process. The empirical studies of Wooldridge and Floyd (1990), Papadakis (1998), Papadakis and Barwise (2002) and Arendt et al. (2005), make similar points from the decision making perspective. What is missing, however, (and what is revealed by the current research) is the overarching argument that the application of knowledge during the initial phase can significantly influence the subsequent development path of the decision. No

two strategic decisions are the same and the difference, this thesis suggests, stems from that initiation point. A knowledgeable initiator may not be a given in all organisations, but this research suggests that a decision which achieves its objectives is (inter alia) well grounded in terms of knowledge application at the outset of the process.

Key:
Orange = F = functional; M = managerial; S = strategic
Blue = knowledge capsule (connects F,M and S)
Green = local context (contextualises application)
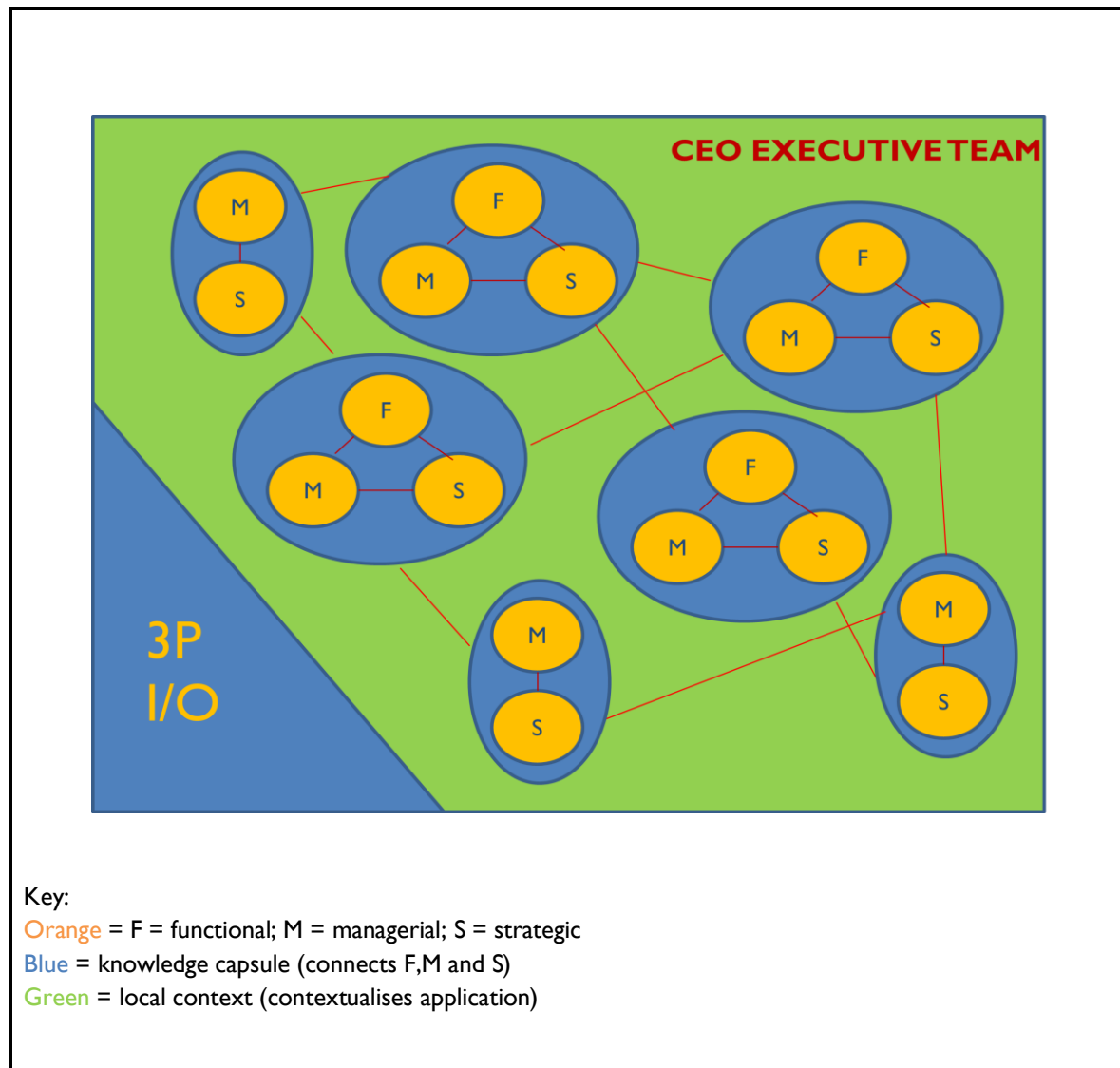
Figure 6.6: Interplay between CEO and Executive Team Knowledge Assets

The strategic planning process, as the cases in this research showed, offers a forum for discussion and generation of ideas. But, it does not imply that all decisions are planned, even in an organisation where such a planning process exists. NLO studied in this research was a late decision that was made informally, whereas NPD was a more formal and structured process. This is recognised by scholars such as Mintzberg (1987), Cray et al.

(1991), Mintzberg et al. (1998) March (1999) and Nutt (2001) who highlight more than one approach to making a decision. It is not always a process of thinking first, which was evident in NPD. Rather, it is a case of recognising the opportunity as proposed by Mintzberg and Wesley (2001) and then framing the context from which a decision is generated. The scale of the opportunity and the decision shape emerges in the implementation as teams of individuals conduct work on smaller decisions.

The application of knowledge to generate a decision is a significant finding relative to existing literature on the value of knowledge. Not only is knowledge as a concept problematic; the boundaries of decision making are not clear and empirical studies remain ambiguous in that regard. In adding this insight, the research makes progress towards the assessment of its value in context. The empirical studies of Nutt (1998a, 1998b, 1999) reveal that premature commitment, bad practices and poor allocation of resources can all lead to strategic decision failures. Nutt notes that these factors tend to occur during implementation, but (arguably) the decision that is generated can make those failures less likely as the insights that are generated within the frame set influence what occurs in the implementation. The composition of the senior management team, therefore, and not the central stock in that team, is likely to be more important relative to the decision.

6.5. The Utilisation of Knowledge and Generation of Insights

Two types of insight - Type I and Type II – can emerge from the interplay of knowledge assets. The findings reveal that both types of insight can matter more than experience in strategic decisions, and experience appears to have limitations in terms of decision development. The path-dependent learning which builds knowledge assets is not a deciding factor in terms of outcomes. Sometimes, it is necessary to stretch the organisation in order to develop it. This can be achieved through the interplay of knowledge assets in decision making. In the process, the organisation may be required to unlearn as proposed by scholars such as Hedberg (1981) and Leonard-Barton (1992). The insights which are generated can contribute to that unlearning process, as highlighted by Zollo and Winter (2002) and Prieto and Easterby-Smith (2006). The accumulation of experience and the codification of insights underlie the development of knowledge assets at decision level.

The decision frame informs the generation of insights, which emerge through forming of interpretations based on information related to each decision. In addition to Boisot (1998)

who addressed the codification and abstraction through what he called a 'social learning cycle', the findings also highlight the importance of work by Weick and Roberts (1993), Blackler (1995), Tsoukas (1996), Blackler et al. (2000) and Orlikowski (2002). These scholars treat knowledge as an emergent and distributed activity. Major insights (e.g. business model options) can be an outcome of multiple interplays and each of the insights can direct parts of the central decision towards integration, or disintegration, along the way. This is reflected in the theoretical works of Teece (2007) and Helfat et al. (2007) who recognise that the development of a senior management team's ability to identify opportunities in rapidly changing environments is an ongoing accomplishment.

Key:
Orange = F = functional; M = managerial; S = strategic
Blue = central point of interplay (connects F, M and S)
Light blue = new insight generated through interplay
Green = local context (contextualises application)
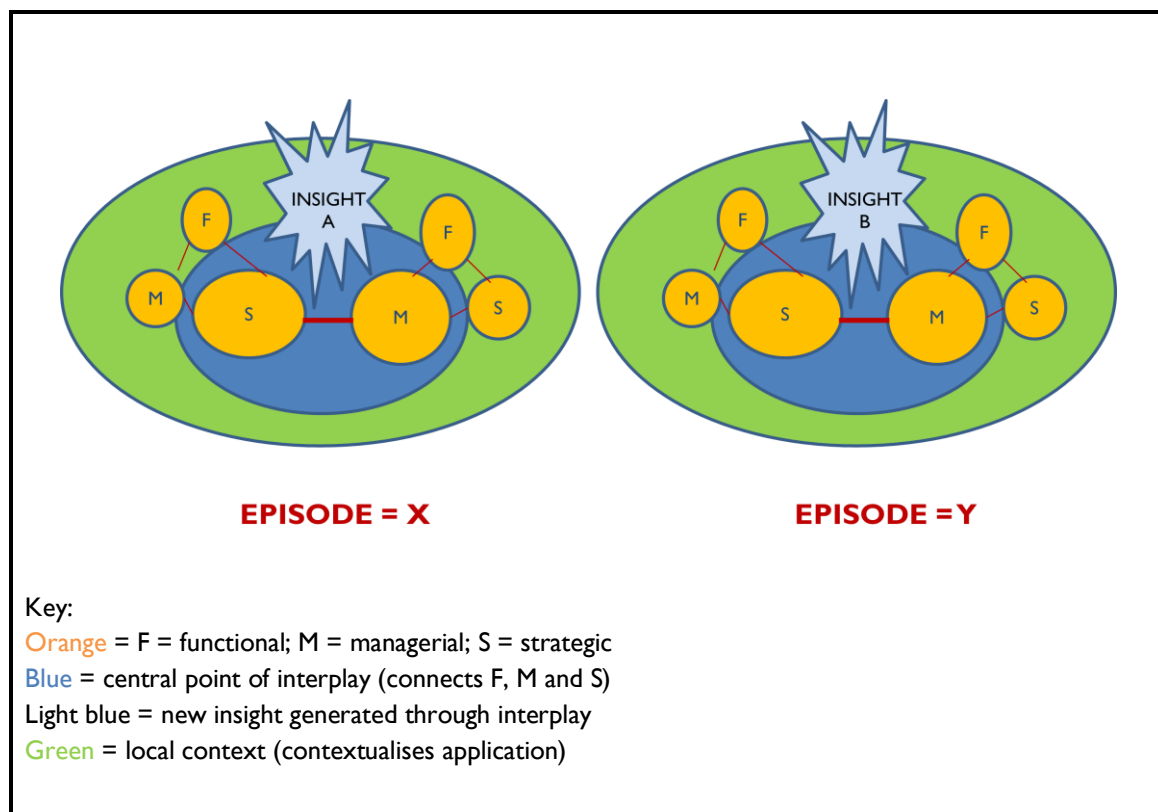
Figure 6.7: Two Similar Interplays can Generate a Different Insight in Two Episodes

To identify the sources of insights is not an easy task. The ad-hoc participation in the process interrupts the information flow between knowledge stocks and leads to the emergence of most insights at decision level. The creation of insights is a continuous process as suggested by scholars such as March (1991), Boisot (1995), Langley et al. (1995)

and Miller et al. (2006). It involves codification and abstraction of information (e.g. market research report), prior to diffusion across functional groups that build smaller decisions. Neither process has to be explicit or intended. The transferability of each insight is highly variable. Some will be generated through formal meetings, but this research also proposes that some insights will emerge through socialisation as noted by Nonaka (1994) and Spender (1996a). Organisational routines facilitate the interplay during decision making, but it is the interplays which create new insights, or knowledge. The interplays can renew existing routines as a result of those insights and pave the way for future innovations.

Key:
Orange = F = functional; M = managerial; S = strategic
Blue = central point of interplay (connects F, M and S)
Light blue = new insight generated through interplay
Green = local context (contextualises application)

Figure 6.8: Business Model Options Generated through Interplay of Knowledge Stocks

The blockages in information flows make the generation of most insights indirect in this research. Some can spontaneously emerge as noted by March (2006) during, for example, technical development and platform testing. Figure 6.7 illustrates that the episode can

influence the generation of insights through a similar interplay of knowledge assets. In NPD, for example, PD and SM gained insight on political resistance during the decision approval, and on the business model options in a different episode. The knowledge stock may be identical, but is medi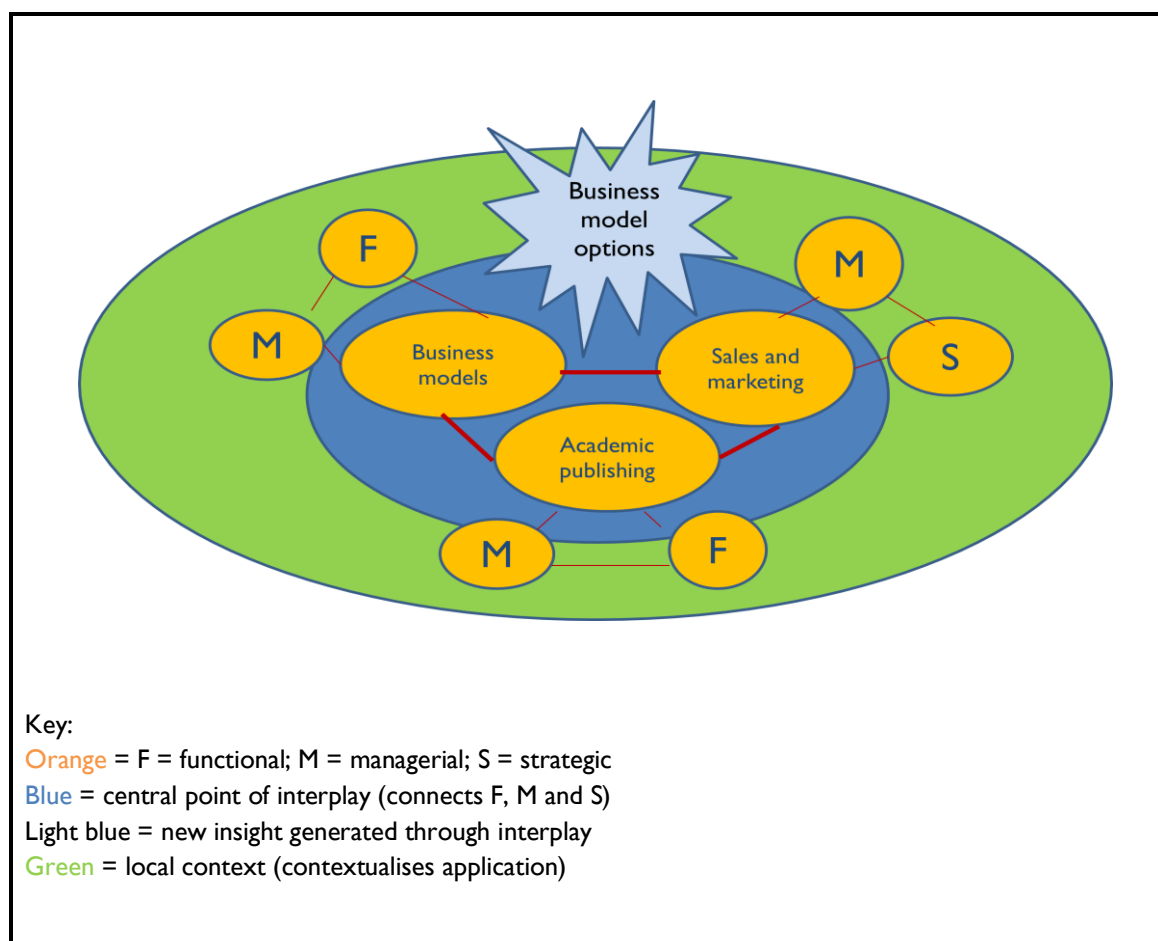ated by context. Figure 6.8 illustrates how the strategic expertise of PD and LD and functional expertise from sales and marketing interplay to generate an insight that will be the basis for a critical decision. Had it been a marketing decision, the senior managers in sales and marketing would arguably contribute strategic expertise, and PD would contribute managerial expertise, instead, to enable the decision to be taken.

The ways in which new insights add value to a decision is different in each case. For example, editorial and technology insights that are generated from interplay in each episode can generate an insight between them (see Figure 6.9). It makes the assessment of value more challenging and scholars such as Spender (1996a) and Langlois (2001) highlight the difficulty of capturing and codifying knowledge in practice. The insight can feed back into each episode, but it will not be used in the same way. Once it enters interplay, it seems to adapt to the local rules of the social practice specific to that episode. In NLO, the decisions on restructuring and the type of office, led to the insight on the scope of organisational change Pub Com can take on, which will inform future decision making (see Figure 6.9).

As a result of the interplay, insights appear to emerge independently of the stocks that generate them. This sheds further light on the theoretical ideas proposed by Spender (1996a) and Boisot (1998). Two stocks do not only interplay in a single meeting or a conversation, which can provide invaluable information. Rather, there may be many intertwining flows that converge and diverge over time, to eventually produce Type I or Type II insight. Both decisions have highlighted that new insights provide direction in terms of decision development, and that existing knowledge provides continuity in decision making. Each is an opportunity to 'pick' insights which contextualise the stock more and influence the accumulation of the asset, not merely more knowledge in volume.
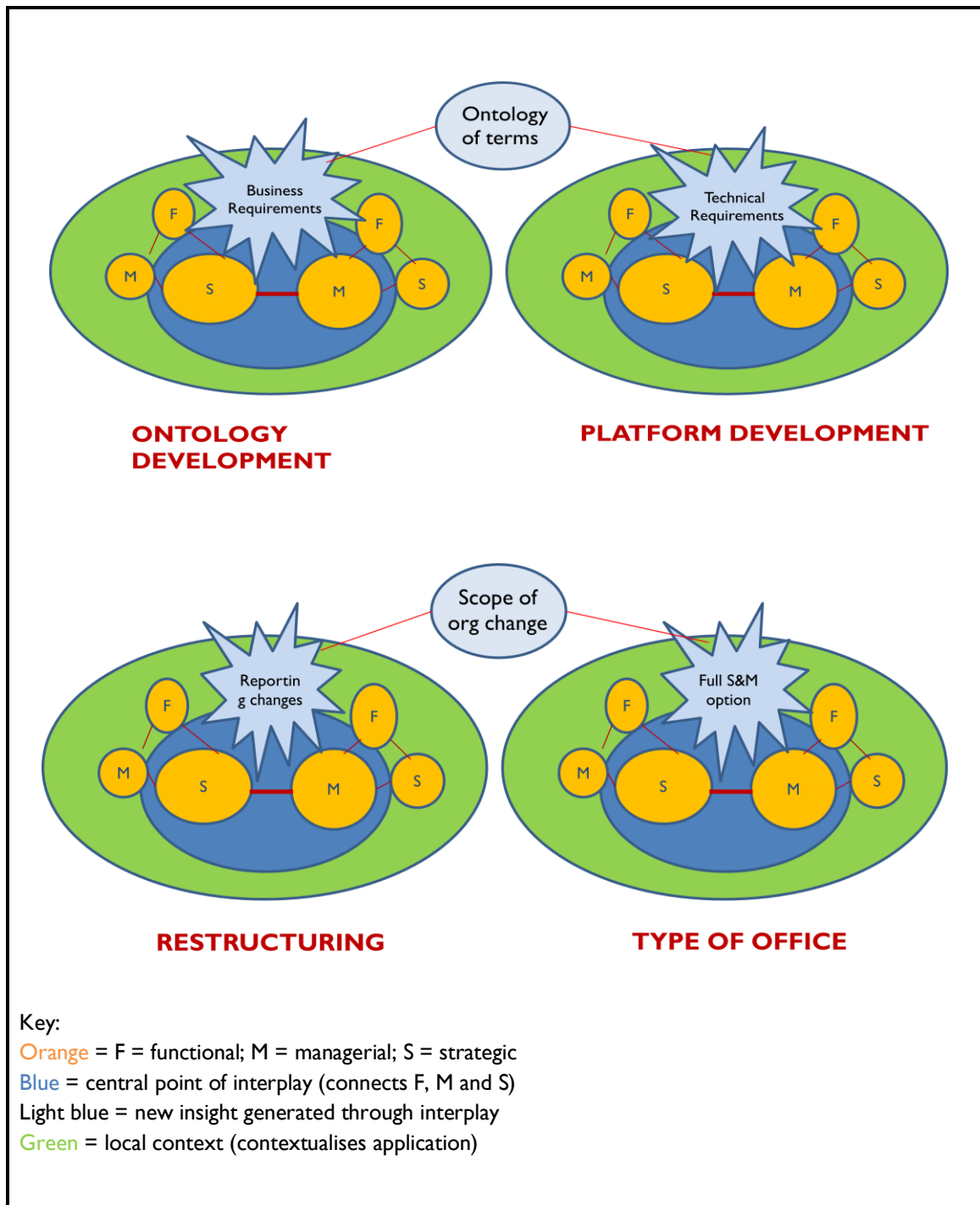
Figure 6.9: The Generation and Value of Insights in Decision Making

The generation of insights can renew individual knowledge assets, or update existing organisational knowledge and practices; for example, product development templates and new office openings in a region. This adds to the thesis of scholars such as Eisenhardt and

Martin (2000), Zollo and Winter (2002) and Helfat et al. (2007) who highlight the learning element at strategic level. As most insights emerge through decision making, they also raise the question of whether exploration is more important than exploitation, as proposed by March (1991). The research has found that in both cases exploitation matters more at the start, but the exploration is more evident in the latter stages of decision making. Insights develop the central decision and the intensity of information search is likely to vary between cases. Some decisions will be more novel than others in terms of the topic and relative to experience levels of the management team. The implication is that the potential for knowledge development during decision making can be quite significant.

6.6. Interplay Can Renew Individual Knowledge Stocks

As knowledge assets interplay, they can draw upon other knowledge from outside the decision process. The source of new knowledge can be another stock or a flow of information, a theme explored by Dierickx and Cool (1989) and Decarolis and Deeds (1999). Each knowledge type is a potential source of renewal and the potential to renew is an important source of value. The findings confirm the relevance of absorptive capacity proposed by Cohen and Levinthal (1990), and how information can renew knowledge assets to add value (Boisot 1998). The implication is that the renewed structure of each individual knowledge capsule is likely to influence its relative value in the decision process. This will also include the extent to which other knowledge is modified as a result of application.

6.6.1. The Knowledge Capsule can be Conceptualised as an Endogenous Resource

Often, even with the arrival of new information, knowledge assets can remain exogenous and simply adapt to the contribution of other knowledge stock. The extent of transformation seems to depend on the involvement of senior managers *and* the newness of information as described by Boisot (1998). The endogenous nature of (organisational) knowledge and the difficulty of capturing it are highlighted by Langlois (2001) who argues, that knowledge is not increasingly codified or abstract, as many had thought. This research adds to that stream of debates by proposing that information can make insights more codified and transferrable (e.g. market research report or business model options) which can change the exogenous- endogenous balance of each knowledge capsule, i.e. stock.

The data suggest that individuals can increase their contribution through the renewal of knowledge capsule. This helps them to specialise which accords with the theoretical work

of Grant (1996a). The implication is that the application in current process can influence how knowledge accumulates as an asset. Therefore, strategic expertise may develop at a faster pace than managerial expertise, which can influence its role in future decisions. Eisenhardt and Martin (2000) propose that the pacing of experience is critical for knowledge to accumulate and ensuring that experience is transformed into meaningful learning. However, if a senior manager is involved in more than one decision, the tracking of renewal becomes difficult. The retrospective analysis makes the assessment of development slightly easier, as multiple perspectives are available on the same decision.

The ability to renew knowledge stocks is important for several reasons. Firstly, for knowledge to continue to add value, it must be updated as argued by Leonard-Barton (1992), Drucker (1993) and Boisot (1998). Secondly, the renewal adapts the stock to local context and it highlights the argument made by Cook and Brown (1999) who propose the bridging of epistemologies between resource and process perspectives. Thirdly, the renewal builds knowledge as an asset, which can make it more complementary to other knowledge assets during the decision making process. This can improve the integration of individual knowledge stocks as highlighted by Augier and Teece (2009). Lastly, their ability to adapt, and change, is likely to influence the strategic decisions that senior managers choose to make in the future, as noted in the empirical work of Adner and Helfat (2003).

6.6.2. Identifying Knowledge Value-Adding Processes in Decision Making

The interplay draws attention to the relationships between knowledge types. These are different to types proposed by Spender (1994b, 1996b), but still recognise that each can transform the others. The renewal of knowledge assets, this research adds, occurs through one of the value-adding processes derived from the two cases; informing, attuning, advancing or building a decision. Firstly, the knowledge assets can renew each other through conversation or discussion, which can take place in the informal dimension of decision making. One asset is *informing* the other, which may lead to a decision. Then, by also drawing upon contextual insights, a knowledge stock through renewal of one of the knowledge assets can *attune* the stock and application to current (decision) context. Alternatively, it can draw upon third party insights which help to *advance* the work in decision episodes. Finally, to increase the value of the interplay in order to *build* the decision, all three types of knowledge are required at the point of application.

Renewal of Individual Knowledge Assets			
INFORMING	ATTUNING	ADVANCING	BUILDING
The interplay of strategic and functional can renew strategic expertise	The interplay of functional and managerial can be drawing upon contextual insights	The interplay of strategic and managerial can be drawing upon third party insights	The interplay of managerial and strategic can be drawing upon contextual and third party insights
The interplay of strategic and strategic can renew strategic expertise	The interplay of functional and functional can be drawing upon contextual insights	The interplay of strategic and strategic can be drawing upon third party insights	The interplay of managerial and managerial can drawing upon contextual and third party insights
Note: Interplay between two or more knowledge stocks takes place *in a decision episode or between stocks that interplay across episode*s; illustrated is the renewal of one knowledge stock but it is also possible that two or more knowledge stocks can renew each other at the same time, it means that the interplay may not be updating the same knowledge assets each time			

Table 6.2: Conceptual Examples of Knowledge Value-Adding Processes

Some conceptual examples of value-adding processes are given in Table 6.2. Functional expertise can inform strategic expertise, or strategic can inform strategic expertise; e.g. sales and marketing decision. The interplay of functional and managerial can attune the application to a decision by drawing upon contextual insights; e.g. shape of the project plan to guide the implementation. The interplay of strategic and managerial expertise can advance a decision by drawing upon third party insights; e.g. market research report. The interplay of managerial and strategic can draw upon contextual and third party to build the

decision; e.g. new office location. In each case, the value-adding process can be taking place in an episode or between episodes. This finding links to the value of complementary expertise, based on the type in the first instance, and the degree of expertise in the second example. Appendix 3 outlines a handful of case examples for each value-adding process in one episode or at decision level, based on the interplay of two stocks of knowledge.

The interplay of more than two knowledge stocks increases the complexity, but not necessarily the value of interplay, if the knowledge assets are not complementary. This research finds that the value of knowledge stems from its ability to create insights which renew knowledge assets through the development of central decision. The useful application proposed by Grant (1996a) and Teece (1998), this thesis argues, is then linked to creation of new knowledge, or insights, which can be re-applied in the same decision making process. New product development capabilities, or those related to expansion in new regional markets can emerge out of the process of decision making. The view is also quite different to making direct associations to performance as suggested by RBV scholars. The value-adding processes are useful because they can describe some key dynamics of knowledge (assets) and highlight the complexity of interplay at each point of application.

The value-adding processes, by focusing on knowledge types, localise the value of knowledge assets in decision making. This idea of local emergence accords with scholars, such as Blackler (1995), Tsoukas (1996) and Brown and Duguid (2001). The decision topic influences involvement at each point. The renewal of a knowledge asset changes the balance between knowledge assets that make up that capsule and its value relative to other knowledge stock. It may be that managerial expertise develops at a faster pace than functional expertise, but the value of the individual contribution may be greater in a functional area given the new balance. The application can also renew internal third party (e.g. committee members that review proposals) and contextual knowledge, if power balance changes (e.g. reporting and restructuring). As proposed by Cohen and Levinthal (1990) each renewal would depend on the absorptive capacity of existing knowledge stock, or organisational experience base which would support the application.

Some learning stems from past experience in the decisions studied. This is a long-standing idea recognised by many scholars such as Cyert and March (1963), Argyris and Schon (1978), March and Levitt (1988), March (1991), Simon (1991), Zollo and Winter (2002), Easterby-Smith and Prieto (2008) and Argote and Miron-Spektor (2011). However, this

thesis argues that during a decision case, learning takes place through value-adding processes, which can only be identified by assessing the interplays. For example, market research insights can inform the application of strategic expertise and the consultation with internal third parties can renew the stock through application of managerial expertise. The structure of the capsule can change in that context. It is an example of informing and advancing value-adding processes influencing the same knowledge capsule over a period of time. The implication is that the exogenous-endogenous balance no longer comes into question. Instead, the development of knowledge can be used to assess resource reconfigurations; as an outcome of new insights that build each strategic decision.

6.6.3. The Inseparability of the Renewal and the Creation of Knowledge

In decision making, knowledge is created through interplay. On that basis, this thesis proposes that, the renewal of knowledge assets and the creation of new knowledge will occur in the same decision process; i.e. both can transform each other. The learning processes described by Boisot (1998) can facilitate the creation of knowledge through the renewal of knowledge assets. The findings confirm that knowledge can aggregate as suggested by Grant (1991), and that individuals create organisational knowledge as proposed by Nonaka (1994) and Boisot (1998). However, the interplay requires a degree of adjustment from each knowledge stock. This is achieved through the value-adding processes which can arguably influence how knowledge aggregates as an asset over time.

The knowledge creation at decision level in this research takes into account conversion between different forms which stems from individuals and is addressed by the studies of Nonaka (1994), Nonaka and Takeuchi (1995) and Spender (1994b, 1996a). The data also confirm the conversion of personal into common knowledge through codification, abstraction and diffusion as suggested by Boisot (1998). The renewal of individual knowledge assets can generate new insights which in turn renew the knowledge of third parties (e.g. internal committees). It can also renew contextual knowledge which becomes embedded in existing social practices (e.g. cross-functional team work) or organisational rules that lead to improved decision making across geographically-dispersed locations.

The theoretical work of Eisenhardt and Martin (2000) has highlighted the importance of routines, such as product development. Their renewal can ease the coordination of cross-functional teams, and enhance the range of information available to each one. The social

interaction – i.e. interplay - of capsules draws upon other knowledge in the process and leads to creation of new knowledge at decision level. The implication is that the analytical focus shifts from the dimensions of the asset to the stock-and-flow perspective which can be assessed in practice. The creation of expertise as a result of application, proposed by Starbuck (1992) is only renewal in this research. As Simon (1991) argued, it takes a long time to create expertise, so the value of complementary expertise becomes more evident.

The renewal of knowledge stock can change the contribution of interplay involving that stock in one or more decision episodes. The development of knowledge assets, it seems, contributes to the creation of new insights, which develop the central decision. Enhanced or new routines can improve the orchestration of knowledge assets as highlighted by Augier and Teece (2009). Multiple interplays are active at any time. The link between renewal and creation of new knowledge, therefore, is not direct which accords with Boisot (1998). This thesis adds that it is through many simultaneous value-adding processes, that decisions are built. The implication for the analysis of strategic decision making is that multiple sequences of insight generation require simultaneous attention and assessment.

6.7. The Interplay May Create New Knowledge Assets

This research has focused on the application of individual knowledge assets. But there are different types of knowledge assets in organisations as noted by the theoretical work of Teece (1998) and Boisot (1998). The decisions can, for example, create requirements for new systems, technologies and products; or contribute to development of new organisational practices. New knowledge assets can emerge as proposed by Boisot (1998) and in this research their creation (e.g. team expertise, new product) was found to stem from multiple interplays involving three types of knowledge. Each was influenced by the decision topic; not only organisational stock and past experience of similar decisions.

The findings suggest that new knowledge creation is not necessarily a path-dependent process. This challenges the theoretical ideas proposed by scholars such as Cyert and March (1963), Nelson and Winter (1982), Levitt and March (1988), Kogut and Zander (1992), Teece et al. (1997), Eisenhardt and Martin (2000), Zollo and Winter (2002) and Teece (2007). The novelty of each strategic decision in this research has demonstrated that a decision process can lead to unexpected consequences, or outcomes. The need for a new product development team, for example, can emerge out of the process. The

complexity of regional development can be tied to unknown dynamics of local markets. The timescales for office openings can change, or for example, unforeseen delays may lead to new insights about the potential of new products and markets. It would appear that through experience in the current decision process the resource requirements and market differences can be more appropriately assessed and understood at corporate level.

A set of episodes, or phases, build each strategic decision. New knowledge creation is influenced by variations between those individual parts. If the senior management team has no experience of a local market, for example, knowledge creation is less path-dependent. The exploration of new opportunities coupled with the outcomes stemming from the interplays can therefore modify the organisational knowledge base and support the creation of new knowledge assets. As it was noted earlier, the learning process is more localised and tailored to each decision. The existing systems and processes can be modified to accommodate the requirements associated with the implementation of a decision. The interplay 'selects' what knowledge to draw upon at each point. This, in turn, facilitates the work on smaller decisions and deployment of resources in the current decision process. Over time, the modified knowledge base can support the development of new capabilities.

To illustrate, NPD was a creation of an organisational knowledge asset, a product based on the application of knowledge capsules, supported by technology and process. The platform development and the business model are manifestations of knowledge assets that were applied through decision making to create the online product. NPD resulted in a new product development process which will inform future decision making and creation of other new products. NLO was a new entity, which supported the development of the international sales capability through its own regional development. NLO was about integrating and using existing knowledge assets at corporate level, rather than creating new ones. However, it could lead to creation of products for the regional market, and technology to support it, relying on multiple interplays to meet the strategic objectives.

Not all decisions will create new knowledge assets and the cases highlight two main reasons. Firstly, developing a new product, or setting up a new office, can rely on the integration of existing knowledge assets. This is highlighted by scholars such as Teece and Pisano (1994), Teece (2000) and Prieto and Easterby-Smith (2006). Secondly, blockages within the decision process (e.g. lack of experience, or weak structures and communication systems) can prevent the merging of insights to create a new knowledge asset. The use of

power and politics between functional areas can block information flows which are necessary for new knowledge assets to develop. Or, new priorities resulting from opening of a regional office may create resistance to change within teams at corporate level.

This research has found that decision making can develop knowledge assets a lot sooner than create new ones, such as accounting or processing system, or a corporate sales capability. Each decision relies on the work of multiple business functions that have assets of their own, as well as being supported by those serving the whole organisation. The first part of decision making is conceptual and based on softer management skills, drawing upon the available knowledge and resources which inform their development in the implementation phase. A lot of documentation is generated in the decision process, but unless the decision itself is a creation of a knowledge asset, most of the work is based on the application of existing ones. Nevertheless, their shape is likely to evolve with the decision and lead to an alternative positioning of those assets in the organisation.

The study of interplays over time can inform their value-added assessments. The wider resource implications that emerge are likely to vary between time periods. Furthermore, when focusing on a strategic process, such as decision making, this thesis argues that it is necessary to consider the influence of power on the application and creation of knowledge. In the empirical analysis, power has been alluded to by maintaining focus on the role and involvement of senior managers and highlighting the importance of informal decision making. But, the current research has not yet addressed power from the knowledge perspective and it leaves the question of who decides what knowledge will be needed, and how that will be applied in decision making? This is explored in the next section.

6.8. Knowledge is Power and Power Shapes Knowledge

The application of knowledge in decision making, this thesis argues, is influenced by the relations of power through the interplay of knowledge stocks. The data highlight that the senior managers who make the central decision do not need to be in the process to exert influence over a decision. Power becomes embedded in the process and information flows re-distribute that power during decision making. The use of power and politics as described by scholars such as Bachrach and Baratz (1962, 1963), Pettigrew (1973), Pfeffer (1992), and Lukes (2005) is evident in some form in the decisions studied. None of those scholars, however, examined how power might be related to, or influence, knowledge creation in decision making. At strategic level, it becomes significant relative to outcomes.

The study of power is a separate research project in its own right, but the data indicate that power is relevant for the present study. Therefore it merits some discussion. Power in this thesis is assumed to be linked to contingencies (Hickson et al. 1971), rather than something individuals have as a function of their position in a hierarchy. Therefore the possession of knowledge that others do not possess endows power and power can also be endowed in the ways in which knowledge is used (such as to reduce uncertainty for others or to identify alternative routes of action, for example). The cases studied indicate that through decision making, the distribution of power can change relative to formal organisational chart.

The degree of power can be based on the contingent positioning of interests in the decision process and Pettigrew (1973) demonstrated this empirically. However, beyond simple contingencies, the argument made by Foucault (1980), that relations of power influence discourse, production and accumulation of knowledge is also an argument supported by the current research. This arguably more radical view of power based on studies of modern societal issues, leaves individuals at the centre of analysis, and examines the influence of power on their contribution. The data suggest that elements of Foucauldian power are present in organisational decision making, since they reveal three key ideas that are mostly missing from the current knowledge debates. These are examined in the next sections.

6.8.1. Power Influences the Production of Knowledge

The KBV has moved knowledge to the centre of strategy debates with the theoretical work of scholars such as Blackler (1995) and Blackler et al. (2000) highlighting it is provisional and contested in the context of application. Knowledge is power, but the two cases have also highlighted how power is pivotal to the application and development of knowledge. Current organisational form is in part the result of relations of power and politics over a period of time, which is proposed by Pettigrew (1973, 2003). The question that remains is who decides what knowledge is strategically important? In the context of this research, who defines the problem that leads to a decision to solve it? Who decides what information is relevant to a decision and what insights are applied in the process?

When power enters debate, there is a tendency to imply that "A has power over B" which is highlighted by Dahl (1957, 1958) and Clegg (1989a). In organisational decision making, power is not necessarily about domination, at least not in an explicit sense. Rather, it can be exercised through authority and influence, or being a member of the executive team, without having the relevant knowledge to make a decision. The empirical studies of Pettigrew (1973), Pfeffer and Salancik (1974), Quinn (1980), Wilson et al. (1986), and Dean and Sharfman (1993) examine the promotion of interests and preferences as key indicators of power plays and politics in decision making. The focus is on the decision or decision outcomes in each case. However, none of the studies assess the influence of power on knowledge production and application, as proposed by Foucault (1980). Power according to Foucault is not observable and does not require explicit articulation in order to exert influence. Yet, it can significantly influence the development of knowledge assets.

The alternative argues that power is exercised, not given or exchanged. The view is more complex as power is not treated as a capacity as proposed by Lukes (2005), or a dimension of the process as defined by Pettigrew (1973). Rather, it operates as a net of influence embedded in the decision making process. The cumulative path and creation of knowledge is variable, regardless of the process, as the decision episodes are different in each case. But, another key insight to emerge out of this research is that power influences the development of knowledge assets, from the formal initiation point. The implication is that the codification and abstraction of information is not interest-free, either, which could potentially place the concept of power at the centre of knowledge debates in the future.

The research has also shown that the power of each knowledge stock can change which builds on the earlier argument that its value relative to a decision can change through renewal. When a decision topic is selected, the task is to frame the context from which the decision is generated. Formal authority is necessary to push the agenda, or frame the decision. The empirical work of Nutt (1998a) examines the framing aspect and derives conclusions from a large sample of cases. This thesis adds by arguing that power embeds itself in decision making during that phase. Embedded in the process, as Foucault (1980) suggested, it can create and be supported by methods for observation, technology for registration, procedure for investigation and research, and apparatuses of control.

In this research, past the observation and registration of opportunities – which is the framing and generation stage - all methods were unique to each case. There was no absolute standardisation of procedures for investigation and research. It is not a direct path from the registration of opportunities in the market to a decision to make a financial investment in the direction of those opportunities. NLO was a late decision that could have been taken years earlier, but Pub Com focused on developing its corporate centres, instead. The strategic planning process offered a forum for reviews in each case. But how power influenced knowledge production at the level of decision was not the same.

The senior management team lost some of its power in both cases once the decision was approved. However, power continues to shape the actions of individuals. Power is embedded and exercised through role and involvement in decision making. In gaining approval for a central decision a senior manager can draw upon third party knowledge to gain approval from a wider group of stakeholders. That senior manager is not relying on own knowledge, but on authority and is using other sources of knowledge to exercise own power in decision making. It is a good example of managerial expertise interplaying with functional or strategic in another area, to back the decision and mobilise project teams.

6.8.2. Sources and Dimensions of Power Occur in Decision Making and Outside It

The sources of power such as authority, expertise, and information control proposed by Pettigrew (1972, 1992a), Clegg (1989b), and Pfeiffer (1992) are not solely tied to decision making. The research highlighted that each source can also influence the development of knowledge and the generation of insights. Power is used to resolve conflict through formal authority, setting agendas and chairing meetings. The control over information flows as

highlighted by Pettigrew (1972) influences the presentation of alternatives, but the decision topic influences the use of power in both cases. Some decisions are more political which is explained by Eisenhardt and Zbaracki (1992) and the empirical studies of scholars such as Eisenhardt and Bourgeois (1988) and Dean and Sharfman (1996b). In this research less senior individuals can set agendas and chair meetings, a theme explored by Mechanic (1964). But the research also suggests that if the decision is more risky then it can involve more senior individuals than an internal investment which takes place within existing structures.

The management of meaning and the importance of charisma in individuals who have a clear sense of purpose and ability to cope with uncertainty in order to create certainty in others, accords with Pfeffer (1992). This was the case with MDA who had more power than local decision makers, but insufficient knowledge about the organisation. However, having faith in what the organisation needed was important. The question is to what extent do, sources or instruments of power influence the application of knowledge? In this research, the *control over the flow of information* was the main instrument of power. But, it could be argued that if the organisation was not a knowledge-intensive firm, as described by Starbuck (1992), or more political, other instruments of power would dominate the process.

The mobilisation of bias through avoidance of conflict and focusing decision making on safe issues is a finding which accords with the theoretical work of Bachrach and Baratz (1962, 1963). The 'selected' issues will influence knowledge application and the value of insights which emerge in the process. The third dimension of power proposed by Lukes (2005) is not observable in practice, but it can shape the perception of the role in decision making and the acceptance of that role within the existing context. Some of these were evident in the two cases studied, but were not huge. The control over agenda of politics and potential issues was found to take place outside the process (i.e. the informal dimension). This shaped the views of each decision and the preferences of senior managers through information flows and the process of socialisation of what many scholars refer to as tacit knowledge.

The nature of strategic decisions implies that the application of knowledge is constrained by power. In the process, individuals tend to be socialised and oriented towards roles and practices that are culturally and socially given, as proposed by Lukes (2005). But, each can develop their role through the contribution to a decision. As knowledge, the use of power can be inferred from actions of senior managers who, for example, have control over the agenda and the decision frame. The boundaries of decision making are soft, which means

that the net of influence can expand or contract relative to a decision. The presence of conflict due to positions of power, and the promotion of interests and preferences, that do not represent the entire team, are evident in this research. The more contextualised and complementary the knowledge stock, the less conflict in the decision making process.

6.8.3. Individuals are Vehicles (or Redistributors) of Power

Individuals are creators of knowledge, who can redistribute that power through their contribution during decision making. This is important as the relations of power influence organisational discourse, the production and accumulation of knowledge. Power is exercised through a net-like organisation as proposed by Foucault (1980). It is part of a chain, it circulates and individuals are the central points of its articulation. The senior managers frame and generate the project, and then mobilise others to do the work. The power is already embedded in the process and it is not necessary for the CEO and his team to be actively involved in the project. Their contribution is in the process guiding the work.

The argument that individuals are vehicles of power implies that it is not possible to separate power and knowledge as constructs. But, sources of power, as sources of knowledge, need not stem from the senior management team. Often, the most senior executives rely on the knowledge of others, whose expertise is more influential in the component parts of the central decision. The time element balances the distribution of power by influencing the level of involvement at each point. Those that are actively involved control the information flows and what is codified and abstracted. The powerful coalition provides the guidelines, and the rest do the work within those guidelines. One does not exist without the other, and the complementary expertise can help to make the most of those power sources and therefore what knowledge become strategically valuable.

The two cases have highlighted that the initial frame sets the direction of each decision. The work is left to individuals who, through one or more knowledge assets and control over information flows, can change the balance of power in decision making. Higher managerial involvement will open the decision to multiple information flows and increase the complexity of power and influence in decision making. The interplay was less complex in NLO, but it supported significant structural changes at corporate level. The scale of NPD required a greater distribution of power, whereas the novelty of (messier) NLO left the power in the hands of a few senior executives. The relations of power inevitably exert

influence over the value of knowledge over time. The final section revisits the interplay of knowledge capsules and the influence of power through a series of decision making phases.

6.9. The Interplay of Knowledge Stocks in Decision Making

The interplay of knowledge stocks, this research proposes, is a source of heterogeneity of knowledge bases between organisations. Decision making provides an integrating mechanism for knowledge stocks and transactions with other types. Each of the stocks can develop through one or more value-adding processes. The information flows which underpin these value-adding processes connect the decision to the rest of the organisation. The development of knowledge stocks can take place in an episode, or over the course of an entire decision process. Learning is an outcome, but in contrast to Spender (1996b), different types of knowledge do not only interplay through social processes, such as team work and meetings, but the value-adding processes which are specific to the asset.

This research has identified five phases of decision making which provide the context for the study of knowledge interplays and new knowledge creation over time. The central interplay in each phase is dynamic which means that it can change as the central decision develops, as managerial involvement changes and as value-adding processes renew knowledge stocks. An insight can emerge through market research, for example, but only be understood in the build phase. This thesis argues that the decision topic and managerial involvement largely influence what insights are generated over time. The implication is that the senior managers can assess which elements of decision making can be improved and how organisational resources may be reallocated to support future decisions.

The decision making phases are not new, but the conceptualisation in Figure 6.10 adds granularity to analysis of the strategic process as highlighted by Pettigrew (2003). Some phases are included in the studies of scholars such as Mintzberg et al. (1976), Hickson et al. (1986) and Eisenhardt and Zbaracki (1992). However, by leaving implementation out of the analysis the studies have also minimised the significance of the build and integration phases where decisions continued to be developed. This also highlights a repeated criticism of the decision making studies, known for issues of framing and ambiguities of what entails a decision process, noted by Nutt (1989), Daft (1995), Hickson et al. (2003) and Miller et al. (2004). The SDM pentagon adds some clarity in terms of the boundaries and provides a

framework for analysing the value of knowledge assets. The information flows *over time* connect the central interplays across phases and create knowledge at decision level.
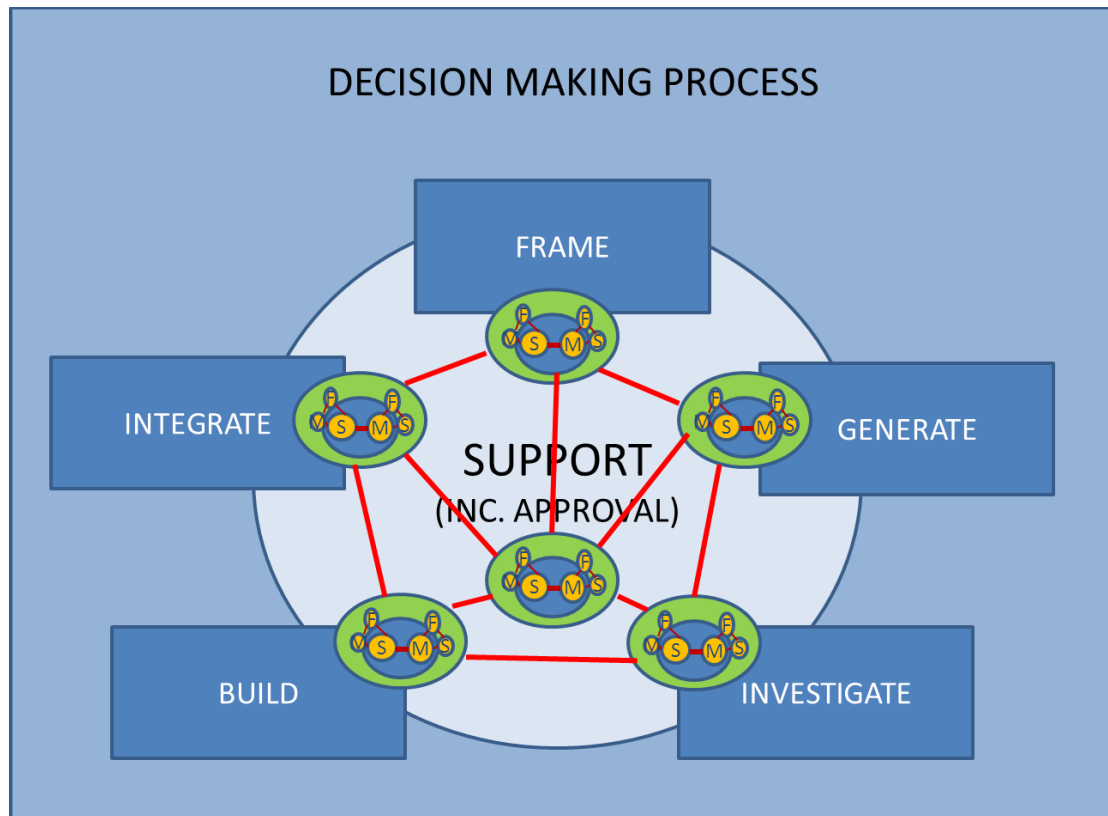
<u>Figure 6.10: Knowledge as an Asset in the Decision Making Process</u>

Once the decision is framed and generated, the investigation can come in one or more parts. Figure 6.11 adds richness to the SDM pentagon and shows that in the build phase there can be many episodes. The integration can start *before* the build phase, but it would not be completed until the work is done on smaller decisions. The senior support is ongoing. Unless the decision fails, knowledge and other resources will continue to be allocated to it. The resources may be supporting more than one decision at a time. This parallels the arguments made by Lindblom (1959) whose studies address learning, and power and politics given a set of complex, changing and unclear organisational goals. The current research adds by proposing that each decision requires a degree of adjustment from the interplaying knowledge stocks in the direction of workable solutions.
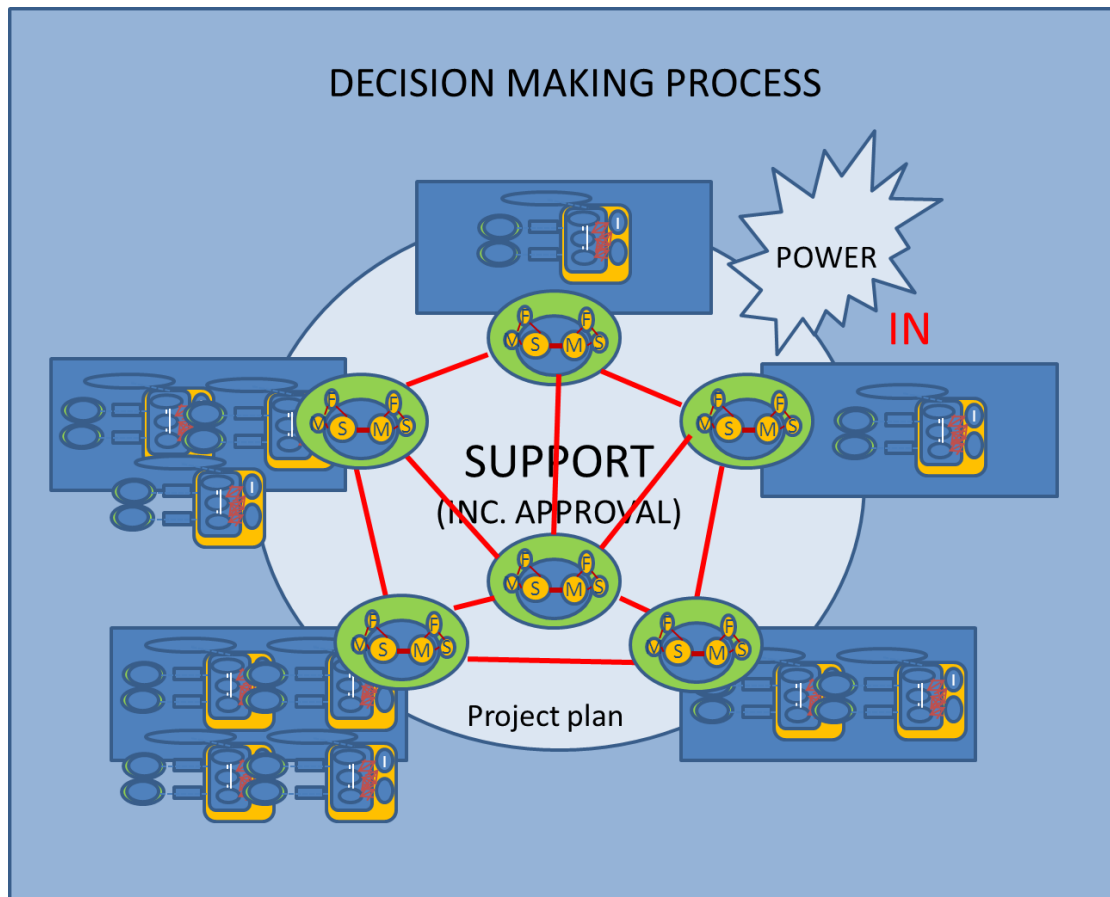
Figure 6.11: Dynamic Utilisation of Knowledge in Decision Making

Power, it would seem, enters decision making at the initiation point. It may explain why it is not necessary for the most senior decision makers to remain in the process. The SDM pentagon does not suggest the direction of information flows or that phases are strictly sequential and it does not ignore the evidence of existing decision making models. Rather, it makes an empirically-supported claim that the interplay of two or more knowledge stocks connects the work across phases. The central interplays - *power loci* – are likely to influence the creation of knowledge at decision level. In decision making it is not the conversion between types, but the interplay of knowledge which is the most important.

This research proposes that the phases are component parts of what becomes a strategic decision. The build and the integration phases begin to modify (and extend) the organisational knowledge base. The reconfiguration of knowledge assets to support new strategic decisions, this thesis proposes, can influence new capability development. New

knowledge which is created during the decision process is a component part of that development. It is created over the length of the process and can become embedded in routines and practices that are shared with other decisions. The senior management can develop their collective ability for identifying new strategic opportunities. The dynamic inherent in the application and development of knowledge assets, is therefore a potential source of dynamic capabilities. The interplays *over time* can significantly influence future paths of new products, and innovative ways of learning across vast geographical distances.

The findings highlight the difficulty of supporting the claim that knowledge as an asset leads to superior performance, or competitive advantage. In generating the central decision, the interplay provides a starting point for its assessment, with the decision topic a significant factor in assessing the value of knowledge assets. The more complementary the knowledge assets, the better it is for the decision. Increasing the likelihood of decision achievement (i.e. meeting objectives) through well-supported interplay of knowledge assets is a more realistic method to assess its value to organisations. The insights which emerge across decision phases can be used to support the development of other strategic decisions.

This research further highlights that the power to make decisions is not strictly in the hands of the dominant coalition. Those who are more involved and have greater knowledge also influence decision making through their own work. Knowledge and power work in tandem, supporting each other during decision making, with some redistribution power taking place in the process. However, greater knowledge does not equal greater power in the process. Strong personalities and more senior managers can overpower knowledge application of less senior but more knowledgeable individuals. The ones that are most in favour of a preferred direction, given an existing set of organisational practices, tend to win.

7. CONCLUSIONS AND CONTRIBUTIONS

Summary of Key Results
How does senior managers' knowledge interplay in the decision making process? • Senior managers are central points of all knowledge articulation and they apply knowledge through an interlinked structure of individual knowledge assets • At any point in decision making each senior manager can draw upon one of the knowledge assets (expertise) , plus contextual and/or third party knowledge • Participation of all senior managers is ad-hoc and the more complementary the expertise is at a point of application, the more beneficial it is for the decision What influences the use of their knowledge during decision making? • The decision topic is a key factor that influences how knowledge is used during decision making and how in/formal is the application of three knowledge types • New insights can influence the role and the level of involvement in the process • The redistribution of power can make knowledge stocks more or less valuable • The development of knowledge as an asset through interplay of three knowledge types can change the value of individual knowledge assets in the process How can the value of knowledge as a strategic asset be identified? • The value of knowledge can be identified from the point at which the decision is generated, i.e. from initial framing through to integration into the organisation • A set of value-adding processes can be used to assess the contribution of each knowledge stock and the value of knowledge at a point of application • New knowledge and learning as the main outcomes of interplays build strategic decisions and underpin the development of heterogeneous knowledge bases

Table 7.1: Summary of Key Results

7.1. Theoretical Advancements

The dynamic capabilities framework has added much-needed dynamism to RBV debates in terms of the contribution resources make to growth and performance. But it does not explain the sources of heterogeneity which makes resources valuable. The KBV has advanced the central RBV debates by highlighting the strategic value of knowledge. The dynamic interplay between resources and processes was the basis of current research. It offers novel insights into how the decision making can be a useful mechanism that not only produces strategic decisions, but one which can modify and extend the organisational knowledge base beyond the immediate context. The decision process underpins the evolution of a dynamic knowledge creation capability that builds each strategic decision.

The analysis of knowledge as a strategic asset in the context of strategic decision making was the central thrust of this thesis. An empirical contribution of the research is an in-depth study of two strategic decisions. Three questions underpinned the study and Table 7.1 provides a summary of key results. Data revealed how both, knowledge can generate a decision, and be a key factor during the decision process. Decisions can draw upon and renew existing knowledge assets, or create new (organisational) knowledge. How knowledge is applied appears to be important to how it accumulates as an asset and its value-adding potential. The heterogeneity of knowledge as an asset develops through application and renewal of three knowledge types in decision making. It is not possible, however, to predict the relative value-added, as value emerges as much from the interplay of knowledge assets over time as it does from knowledge as an organisational resource.

This finding is important because it sheds further light on key paradigms in the field of knowledge management. The first concerns the knowledge-based view (KBV) of the firm. The KBV epistemology is anchored around the notion of knowledge as a strategic asset which can be drawn upon as and when required. A key assumption is that organisations which 'possess' greater knowledge assets will be comparatively better placed in terms of competitive advantage. However, the finding on the value of complementary expertise illustrated how lack of knowledge in the senior management team (and organisations) can be overcome in the process. Furthermore, the malleable structure of each knowledge capsule implies a potential change in the value of one or more of the three types of knowledge proposed in this research. No single asset is the most valuable at all times.

The findings indicate that a resource-based view (RBV) of knowledge may benefit from some modification to make it more dynamic. Knowledge appears to be less of a fixed asset and more of a dynamic character wherein knowledge is generated through decision making processes over time. This insight accords with the theoretical orientation of the late Max Boisot, who spent much time theorising the development of knowledge over time. Yet, the current research does not indicate that we should abandon or ignore the KBV (as Boisot tends to do), but that the KBV could be modified to include the dynamics of knowledge application and development illustrated in the two decision cases.

The dynamics not only influence the evolving structure of knowledge capsules, but highlight how the interplay over time can influence the development of organisational knowledge base beyond the local context. The extent to which a knowledge asset is appropriable and its capacity for aggregation can be identified at the point of interplay. The extent of its transferability as an asset can change through the interplay. If either contextual or third party knowledge are renewed, each can diffuse new knowledge more widely in and between organisations (e.g. vendors, strategic partners). As such, the significance of local context and the provisional nature of knowledge must be taken into consideration.

The KBV's arguments remain centred on tacit knowledge as the most important type of knowledge. But, the dynamics of knowledge (asset) development in this research showed that such an emphasis is not necessary, if the view of individual knowledge as a set of interlinked knowledge assets is adopted. What appears to be more important is the degree to which an individual knowledge capsule (or stock) is useful at the point of application. This research, in adopting Boisot's view and remaining focused on information flows between different types of knowledge (assets), has identified four value-adding processes which can be used to assess the value factor in practice. Knowledge must be shared to add value, but the outcomes of its diffusion can differ in terms of value-increasing (or decreasing) 'effects' on knowledge assets which mobilise other sources of knowledge.

The preoccupation of KBV scholars to bring knowledge to the centre of strategy debates has left the issues of power and politics on the sidelines (relatively speaking) of its research agenda. Yet, the two decision cases have highlighted how the application (and creation) of knowledge is not free of interests and the influence of the most powerful individuals. The application of knowledge in organisations will be shaped in line with a set of interests and preferences. The influence of the most senior managers can be sustained in the decision

making process without them necessarily having any physical presence during the process. This research revealed that less senior managers can redistribute that power through their involvement. The locus of power will shift as a result of that redistribution. The development of knowledge will be influenced by those power shifts. The outcome of the redistribution, as value-added, cannot be entirely predicted in advance.

This is to be expected since this emerges during the process of application. Furthermore, ad-hoc participation of interests in the decision process has highlighted that knowledge is not always embedded into the process. Rather, some knowledge is, as Spender argued, a process of ongoing social construction that enables the application and coordination of different types of knowledge (assets). When the power net expands to include a greater number of interests and preferences, how knowledge is diffused can change quite significantly. The process of tracking knowledge exchange and transfer becomes more difficult as a result. For those who contribute stocks of knowledge and experience, it is often a case of spontaneous adjustment relative to the involvement of other managers. In many ways, this research has illustrated how the different perspectives of Spender and Boisot might be blended (or at least considered together rather than separately).

Although the research showed that power can be redistributed as decisions progress, it is equally clear that the most senior managers frame the process. In doing so, they provide an initial decision context within which other managers can interact. This framing is reminiscent of the work of Bachrach and Baratz (1962) and Lukes (2005) who argued theoretically that the exercise of power by the interests of some individuals, or groups, results in reducing the autonomy or scope of action by others. This means that knowledge is not simply traded and exchanged as a commodity, but it is a highly politicised process in which some interests (senior managers) are able to frame the agenda and others (less senior managers) are less able to do so. The value of knowledge is therefore influenced by different sources of power and that value often needs to be negotiated.

The influence of power on the development of knowledge can extend beyond the local context. Some knowledge can become more valuable and be applied in other projects simultaneously. At the same time, each knowledge stock can increase its degree of power relative to other stock. However, the 'value-added' of each piece of knowledge is not always embedded in the process of application. Blockages in information flows - as carriers of knowledge *and* power - can prevent the increase of power. Or, it can limit the

contribution of valuable knowledge. The presence of such situated and contested factors would require the integration of not only different types of knowledge at conceptual level, but the integration of resource and the process of knowing perspectives in future research.

In context of decision making, by developing a pluralistic view of knowledge, this research has expanded, for example, on the ideas proposed by the CEO-advisor model and recognised the importance of implementation in decision making. At strategic level of analysis, there are many simultaneous sequences and through each one, different types of knowledge can be developed and created. This is very different to simply choosing amongst a number of alternatives and stating a clear point of choice, which is increasingly difficult to define and agree upon in practice. To manage knowledge as an asset requires a reconciliation of not only conflicting interests and priorities, but knowledge definitions. The findings revealed that definitions can often emerge through the knowledge interplays as each combination will select what new insight or knowledge is relative to local context.

This research sheds further light on how heterogeneous knowledge bases develop in organisations. But, the dynamics of knowledge highlight the complexity of its management on a number of grounds. Firstly, as an asset in its own right, it can undergo significant change during a process, and change its value as a result. Secondly, that development is influenced by relative power of knowledge assets which can vary significantly between interplays. Thirdly, knowledge is a provisional, situated and mediated process, not only a transferrable resource. Lastly, the value of complementary expertise stems from knowledge assets, not dimensions, or levels of analysis. Greater flexibility, perhaps, is needed in the conceptualisation of the resource than traditionally granted in literature.

It is not necessary for knowledge to be codified, or embedded to add value. The asset remains a rich source of value, in its tacit, hard-to-articulate form. The assessment of social interactions between knowledge assets, not individuals per se, this research proposes, could therefore advance the inquiry at theoretical level; by further understanding how value-adding processes can change the power and the relevance of different types of knowledge which appears to be important. The sourcing, integration and transfer of knowledge in and between organisations are therefore not on their own sufficient to support the claim that it is the most strategic asset. What seems to be more important is the right combination of knowledge assets at the point of application. To advance the field of knowledge management, it is critical for scholars to address these points in future research.

7.2. Managerial Implications

The novel insights derived from the analysis provide building blocks for an alternative way of studying and assessing the value of knowledge in organisations. The empirically-derived view of knowledge in this research also highlights why some distinctions are not as clear in practice as they may be on paper. To add value, new knowledge can be codified, abstracted and diffused, but in practice managers rarely see these processes relative to their own knowledge stock. What they can identify, however, are the sources and outcomes of the knowledge interplays, i.e. information or insights which can be applied in decision making; and beyond. The identification and analysis of knowledge assets which are perceived as most valuable at the point of interplay can inform value-added assessments of the asset.

7.2.1. Challenges to Development of Knowledge Assets

The dynamics of knowledge assets continue to make knowledge a challenging concept to study. Senior managers are not only contributors, but also producers of knowledge in what can be described as a transactional space, i.e. a strategic decision. The transactional space puts boundaries around a decision which provides context for knowledge development. However, tracking and analysis of knowledge development within that space is difficult because of the characteristics of managerial decision making. The process is initially in the hands of a few managers, but in the build phase the involvement of many functional areas widens the transactional space in which knowledge is exchanged and developed.

The assessment of value (and the development) of knowledge assets is challenging for several reasons. Firstly, no knowledge asset is valuable on its own. The value of each is relative, even for the most senior managers. Secondly, until a formal decision point, each contribution is in the process potentially adding value to the development of decision parts. It can contribute, or support multiple interplays, and its value will vary at those points. Lastly, as the power distribution shifts during the decision process, so does the value of each stock. This research has identified that the application takes place within the frame set by the most senior managers, even as the particulars of each decision develop.

The limited time managers spend in decision making makes the application of knowledge and problem solving potentially ad-hoc. For example, some managers can have a discussion, suggest a course of action and leave others to investigate. This directs the cumulative path of development that also informs smaller related operational decisions. But, the senior

managers are not necessarily aware of their contribution which helps to explain the indirect generation of new insights at decision level. As knowledge develops as an asset, the renewal processes change its value relative to other knowledge in decision making.

Such renewal of knowledge in the process can support the development of the organisational knowledge base. The evolution of the knowledge creation capability across decision phases can facilitate the ad-hoc contributions of functional areas. However, some key expertise may be missing and the timing of projects may not match the value of knowledge assets at a point in time. This can significantly influence the development of a strategic decision by focusing attention on some areas to the detriment of others. The development of knowledge assets cannot be predicted since a great deal of understanding of each decision develops during the decision process. Within the decision, the information flows connect all knowledge assets, but these flows can also be blocked at any point.

The information flows become more difficult to manage across geographically dispersed locations. This can influence the value of complementary expertise. The distance may reduce the value of knowledge assets by diluting the contribution, since managers can work on the same type of development separately, but keep valuable knowledge in isolation. This is a version of local rationality operating across continents or large distances. The challenge is how to exploit current knowledge stock to pave the way for development of those knowledge assets which it may need the most in near future. The selection and development process, however, is not free of interests. The interplay of knowledge assets and new insights that emerge could generate outcomes that are not readily accepted by areas that need to build and integrate the decision into the rest of the organisation.

7.2.2. Extracting Value from Existing Knowledge Assets

Knowledge comes from different sources inside and outside the organisation. During decision making, senior managers who are central to the process, also select what knowledge to apply to the decision. Therefore, they also make decisions about the central interplays. The value of knowledge (assets) in decision making can increase through one of the knowledge value-adding processes: *informing, attuning, advancing* and *building* the decision. This approach establishes a relationship between three knowledge types that are present in all organisations. The implication is that managers can assess how to support the information flows between knowledge stocks and interplays through existing practices.

To assess the value of knowledge in decision making, it appears necessary to start with the decision topic, which determined the relevance of the stock of knowledge. Prior to each decision episode, managers can identify knowledge requirements and supply to ensure the activity is resourced adequately. The transactional value of knowledge assets can be determined by assessing the value of the interplay which is focused on combinations, not the individual stock. There are also two levels of this transaction; decision and episode. If a decision relies on outcomes of a greater number of information of flows the value is arguably greater, since the influence will be on more than one part of the strategic decision.

The interplay between 'local' knowledge and the interplay of local knowledge sources has, from a common-sense perspective, to meet some basic criteria for efficiency and effectiveness. The stock of knowledge at any time in the decision process ideally needs to match (as far as possible) the problems and issues to be solved. However, this research has shown clearly that alongside local knowledge comes local interest, so the forum for sharing knowledge is not politically benign. Knowledge is shaped by these interests, which will attempt to prioritise particular pieces of knowledge. Furthermore, the political coalition of interests is not constant throughout the decision process. This makes the nexus between knowledge and power more complex; as one phase is completed, some senior managers will not have as much power to influence the decision and others enter the decision arena.

As the value of knowledge assets shifts relative to others, the timing of decision also matters, since temporality influences what knowledge comes into the process and when. The central stock of knowledge and the extent to which it is developed is likely to be different in each case. An MD can have significant bearing on who is involved and choosing those who have complementary expertise can influence decision making in terms of direction and insight generation. The power of each stock can increase or decrease as a result. As long as the expertise in the project team is complementary, lack of knowledge at the start of a decision may not always impede progress during decision making.

This research has found that new insights, even with the absence of knowledge at the start, can make up for any gaps in knowledge during the decision case. One benefit of this is that the team is not constrained by knowledge derived from previous experience and can contribute novel insights. A key question for practicing managers is what happens at the points of interaction? Who decides what knowledge is applied or ignored? Assessing the distribution of power in the process, across decision episodes, can help to assess the value

of those sources of power and how they support knowledge creation. The findings indicate that knowledge stocks supported by a political coalition, which may not be the most knowledgeable about the decision, increase the likelihood of positive outcomes.

7.3. Limitations of Research

All social science research is limited and the current research is no exception. The research relies on a definition of knowledge derived from an existing theoretical framework, instead of developing the concept further based on the chosen epistemology. It also offers a relatively brief description of a range of other definitions. However, the analytical focus on knowledge-in-use, and not on the philosophical foundations of knowledge as a construct, made the chosen approach sufficient in this instance.

Furthermore, the research questions in part stemmed from the researcher's experience and as such did not wholly emerge out of existing theoretical debates. Rather, they were informed by them. This helped to identify the research gaps, but their explicit mention remains limited to parts of the thesis. However, the thematic headings in the discussion were underpinned by the questions and provided a robust framing for the contributions.

Despite gaining high quality access senior management in two cases of strategic decision making, it proved impossible to widen the sample any further, since all other approaches to gain access failed (and there were many attempts made). So, inevitably, this study will suffer from a small, concentrated data set drawn from two cases. Nevertheless, access was at the most senior levels and accounts of the decisions were validated by the managers involved.

Beyond these limitations lie further difficulties in capturing the richness and complexity of knowledge-in-use during multiple decision episodes. Although many detailed interaction and use of knowledge were observed and captured during decision making, there are doubtless a number of occasions when information may have been shared behind closed doors, or privately which were not accessible to the research. What is detailed here is an extant analysis of what was visible to the researcher.

Since the cases were reconstructions of the recent past, there is always the possible limitation of accurate recall, although the significant amount of secondary data and the accounts of many involved managers mitigate this limitation to an extent. In this research, at least, the accounts matched each other well on the most important aspects of each case.

Nevertheless, steps were taken throughout to avoid, as far as possible, researcher bias or undue subjectivity influencing both the coding of data and its analysis and interpretation.

Finally, the richness and volume of data collected meant that the study could not include everything in the analysis; neither it was necessary. There are data which had to remain outside this study (but which could inform future studies perhaps). In spite of every care being taken with coding and selecting data, there is always the possibility of not including pieces of data in the overall analysis which may have had some degree of influence over knowledge-in-use in decision making. But the study has generated insights which can be used to reliably support the development of further research in the field.

7.4. Future Research Directions

An obvious next step in the research process would be to find more research sites and gather data on cases studies in the same or different industry, using the view of knowledge developed in this research. Once the data are collected, it would be a case of assessing variations that exist between those cases and organisational contexts. Some organisations are more political, some bigger, and some less hierarchical than the one used in our research. The difference in context would have bearing on the application of knowledge, in terms of the depth of interplay, for example, so further insights are likely to emerge.

It is arguably possible to use the pentagon to guide the research and even take the same type of decision across many organisations and to examine how, or if, context influences the production of insights; how building the same type of decision might be different across those decisions. This would allow the researcher to compare the value of knowledge as an asset in organisations at various points of the decision making process across a wide range of decisions and organisations. If the heterogeneity of knowledge develops through the decision making, then identifying those differences can provide invaluable insights.

Another extension of the research would be to take a different organisational process and analyse the value of knowledge using the conceptualisation of knowledge application in one decision episode. The four value-adding processes could be examined. These could relate to development of specific competences and capabilities in an organisation. So, for example, the development of a capability could be compared between two different time periods. This would take into consideration the involvement of senior managers and how combinations of knowledge assets add value at different points in organisational history.

In a similar way, one could take the development of different knowledge assets and assess their value-added. This can extend the application of findings of this research to analysing the development of organisational knowledge assets. Some decision-related projects create new ones, and can modify the existing resource base to support them, but others depend on existing ones to build the decision. By examining the crossovers between strategic decisions and how they support each other, could help to identify knowledge gaps, or find out how best to apply the existing knowledge assets to future decision development.

Given the difficult of gaining access to strategic decision cases, a survey could be developed from this research to find out more easily perhaps how different types of knowledge identified here, are used in a variety of decision cases. The decision making phases could be used to frame the survey structure and come up with a good set of questions. Survey method could provide some useful statistical insights in terms of relationships between different knowledge types in and across decision episodes that make up each phase. So for example, it could offer insight into when is strategic expertise more used, or valuable.

The study of the use of power through knowledge application in decision making or other processes is a further important research direction that could be explored. The decision may stem from the same group of senior managers. But, in each case the balance of power can shift and influence the information flows, and therefore value-adding processes, which create new knowledge over time. Some knowledge assets can increase their value relative to others, so examining these shifts across business areas, not only individual managers, can be used to assess the development of organisational knowledge assets. A wider sample of senior managers or projects would benefit from such comparative analysis.

The proposed view of dynamic knowledge utilisation in decision making can be used to promote a much-needed dialogue between academia and practice. It is therefore hoped that this research provides some basis for further debate. To make a claim that any theory of knowledge use is sufficient to describe it fully would be a mark of poor judgement. What is more important - and feasible - is to work on developing a string of theories where each informs the advancement of the other, so that each provides a realistic guide to the nature of management practice. Insights generated from each one can create new knowledge at topic level, as was the case with the decision making process developed in this research.

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APPENDIX 1 – SUMMARY OF EMPIRICAL DECISION MAKING STUDIES

CEO and Management Influence

Author	Method / Sample	Conclusions
Arendt, L. A., Priem, R. L. and Ndofor, H. A. (2005)	Cross-comparison of different decision making models: the CEO, the TMT and CEO-Adviser models	CEO do not make strategic decisions on their own, but draw upon formal and informal advisory in the process, the model explains how advisors are selected in the process
Hegarty, W. H. and Hoffman, R. C. (1987)	Questionnaire data from 407 senior managers	Three types of strategic decisions, each influenced by different departments, only the MD maintained influence over all decisions; power bases, environmental scanning and influence of formal position vary by type of decision
Iaquinto, A. L. and Fredrickson, J. W. (1997)	Questionnaire data from 65 firms in two industries	The positive influence of the level of agreement about the process among top executives which allows them to focus on the content of strategic decisions
Papadakis, V. M. (1998)	Field study of 70 decisions, interviews with key participants, two questionnaires and archival data	Higher performance is relation to more rational decision making, more financial reporting and broader participation from departments and across hierarchical levels
Papadakis, V. M., Liokas, S. and Chambers, D. (1998)	Interviews, archival data, questionnaires, 70 strategic decisions in 38 manufacturing firms	Seven dimensions of decision making are analysed and found that decision specific characteristics influence the process more than management characteristics and contextual factors
Papadakis, V. M. and Barwise, P. (2002)	Study of 70 strategic decisions, interviews, questionnaires, archival data	The characteristics of both CEO and TMT influence strategic decision making, the TMT had more influence, both influence different dimensions of the process, the broader context matters the most
Wooldridge, B. and Floyd, S. W. (1990)	Survey method, study of 259 managers in 25 organisations	Middle management involvement in the strategic process is related to improved organisational performance

Table AT1: Empirical Decision Making Studies –CEO and Management Influence

Rationality and Comprehensiveness

Author	Method / Sample	Conclusions
Cyert, R. M. and March, J. G. (1963)	Case studies, computer simulation	Local rationality, conflicting goals, satisficing, SOP, problemistic search
Cray, D., Haines, G. H. and Mallory, G. R. (1994)	Interviews with top executives in pension fund firms	Some decisions lend themselves to programming more than others
Elbanna S. and Child J. (2007)	128 questionnaires and 36 interviews on 117 decisions, plus another 169 questionnaires	Rationality in decision making is shaped by decision , environmental and firm characteristics
Hough J. R. and White M A. (2003)	Computer simulation of 400 decisions from 54 executive teams	Environmental dynamism regulates the relationship between rationality and decision quality
Langley A. (1990)	Case studies, 27 issues in 3 organisations	Three different types of formal analysis are used in decision making
Fredrickson J. W. (1984)	Structured interviews and questionnaires with 152 executives in 38 firms	A positive relationship between comprehensiveness and performance in a stable environment
Fredrickson J. W. and Inquito A. L. (1989)	Questionnaires in 45 firms in two industries	Changes in org. size, executive team tenure and continuity associated with positive changes in comprehensiveness
Fredrickson J. W. and Mitchell T. R. (1986)	Structured interviews and questionnaires with 109 executives in 27 firms	A negative relationship between comprehensiveness and performance in an unstable environment
Dean J. W. and Sharfman M. P. (1996a)	Multiple informant structured interviews on 57 decisions in 24 companies	Managers influence the decision process; procedural rationality was found to positively influence decision outcomes, more than use of politics
Dean J. W. and Sharfman M. P. (1996b)	Multiple informant structured interviews on 57 decisions in 24 companies	Decision making is more procedurally rational when competitive threat and external control are limited, and when problems were not uncertain
Mintzberg H., Raisinghani D. and Theoret A. (1976)	Case studies, 25 strategic decision processes	Phases of decision process, no sequence, conceptual structure given

Rationality and Comprehensiveness (continued)

Author	Method / Sample	Conclusions
Priem R. L., Rasheed A. M.A and Kotulic A. G. (1995)	Multiple respondent survey approach, 101 manufacturing firms	Positive relationship between rationality and performance for firms in dynamic environments

Table AT2: Empirical Decision Making Studies – Rationality and Comprehensiveness

Power and Politics

Author	Method / Sample	Conclusions
Wilson D. C., Butler R. J., Cray D., Hickson D. J. and Mallory G. R. (1986)	Four case studies from two organisations	Analysis of power plays of senior managers centrally involved in decision making, and how manages can secure own interests in the process free from organisational rules
Wilson D. C. (1982)	Case study, chemical industry organisation	The initial problem acts a platform for political debate on a number of issues
Pettigrew, A. M. (1973)	Case study of a major retailer	Decision making is a political process, with control over communication channels most critical to outcomes
Eisenhardt, K.M. and Bourgeois, L. J. (1988)	Case studies of 8 firm in computer industry	Political behaviour in the top management team is associated with poor performance
Pfeffer, J. and Salancik, G. R. (1974)	Field studies	Positive relationship between the power of departments and scarce resource allocation
Dean, J. W. and Sharfman, M. P. (1993)	Structured interviews on 61 decisions in 24 companies	Political behaviour and rationality are independent dimensions of the process and four possible types of strategic decisions
Quinn, J. B. (1980)	Case studies, 9 major corporations	Managers develop broad strategies but implement it opportunistically

Table AT3: Empirical Decision Making Studies – Power and Politics

Decision Implementation

Author	Method / Sample	Conclusions
Miller S., Wilson D. and Hickson D. (2004)	Long term study of 55 strategic decisions in 14 organisations	Managerial planning and experience does not guarantee positive decision outcomes, the organisational context frames actions
Hickson D. J., Miller S. J. and Wilson D. C. (2003)	Long term study of 55 strategic decisions in 14 organisations	Two approaches to managing decision implementation, based on experience or readiness or a combination of both
Miller S. (1997)	Case studies, 11 decisions in 6 organisation	Four critical success factors : backing, clear aims and planning, conducive climate; and other factors such as experience and giving priority to decisions matter less
Miller S., Wilson D. and Hickson D. (2008)	Long term study of 55 strategic decisions in 14 organisations	Key senior executives – core and periphery strategic actors - who are more or less involved is similar across decisions
Nutt P. C. (1984)	Case studies of 78 decision processes	Most processes limit the number of alternatives and are solution centred
Nutt P. C. (1989)	Case studies of 40 strategic episodes	A set of situation constrains such as need for consultation and freedom to act assist more successful implementation
Nutt P. C. (1998b)	Case studies	Different approaches to implementation, including stakeholder support but the most successful was manager's intervention
Nutt P. C. (1999)	Case studies of 358 strategic decisions	Half of all decisions fail and most, due to bad practices, poor commitment, poor allocation of resources

Table AT4: Empirical Decision Making Studies – Decision Implementation

For more details on empirical decision making studies that address rationality and politics refer to overview articles by: Eisenhardt K. M. and Zbaracki M. J. (1992), *Strategic Decision Making*, Strategic Management Journal, 13, pp. 17-37; Rajagopalan N., Rasheed A. M. A. and Datta D. K. (1993), *Strategic Decision Processes: Critical Review and Future Directions*, Journal of Management, 19 (2), pp. 349-384; Schwenk C. R. (1995), *Strategic Decision Making*, Journal of Management, 21 (3), pp. 471-493.

APPENDIX 2 - INTERVIEW GUIDE

INTRODUCTION

- Please introduce yourself, stating briefly why you got involved and level of involvement.

Part I: DECISION BACKGROUND

- Please describe circumstances or factors which prompted the need for this decision.

- What objectives were set for this decision? What was it meant to achieve for CX?

- Please outline key similarities and differences to past strategic decisions at CX.

Part II: MAKING THE DECISION

- Please give details of how the decision was reached - include sequence of events, who was involved, the extent to which their favoured the decision and influence.

- What relevant expertise (or knowledge) did you bring into the process? What did you have to work out along the way? What did you need or rely on the most to achieve your goals?

- Did you instinctively know what to do, or did you adopt a more analytical approach to getting things done? Did you at any point try out anything new, or did you stick to safe tried-and-tested options?

- To what extent did you consult with others not directly involved in the process? If so, how did they contribute? How easy was it to access data and information, and get advice from others?

- What new insights were gained from information and discussion with others about the circumstances surrounding this decision, the appropriate COA, and the implementation requirements? Used or not?

- How did your individual contribution change as (a) new insights were gained (b) as other key players made their own contributions? To what extent did they complement your own expertise?

- If you encountered any issues or difficulties, please explain briefly what they were. At what points did you get stuck? Did anything help in overcoming those difficulties and driving the process forward?

- What did you learn? What key insights were you able to take into the implementation phase of the decision process, which you did not have at the very start (e.g. insights about working relationships)?

Part III: IMPLEMENTING THE DECISION

- Please give details of how the decision was implemented including the sequence of events, who was involved and their level of influence

- What resources, including key expertise, were needed to implement the decision? How available were they? Was anything, seen as important, missing? If so, how did you deal with that?

- What did you have to do? To what extent did you draw upon your previous experience? What aspects of your expertise did you rely on the most, and what did they enable you to do?

- Did any new data or information emerge during implementation? If so, what was it? Was it favourable to what was already being done? How did new information affect what you were doing? Did it at all?

- What new insights did you gained and how did they affect what you were doing? Tested, or not?

- How did others' involvement influence what you were able to do? To what extent did it help you to improve your knowledge about things? Did the new insights contribute to this in any way? How?

- Did any impediments get in the way of driving implementation forward? If so, what were they, and did you discuss them with other key players involved, or do anything else yourself to overcome them?

- Did anything help to deal with impediments experienced during implementation, such as collaboration, good communication, and use of power, authority or influence, making a call to the right individual?

- To what extent was the decision implemented as intended? How precisely was it laid out how the decision was going to be put into effect? What adjustments in activities had to be made?

- To what extent did the decision implementation change commitments and priorities already in place?

Part IV: DECISION OUTCOMES

- To what extent did the decision succeed in achieving what was intended? Measures were used?

- Have there been any unintended consequences of the decision? If so, why did they occur?

- How ready was the organisation to support this decision, both structurally and culturally?

- What changes would you like to have seen in either the decision process or outcomes?

- Key lessons from this decision case to support future decision making and achievement?

APPENDIX 3 - EXAMPLES OF KNOWLEDGE VALUE-ADDING PROCESSES

Case NPD – Same Episode, Two Stocks of Knowledge

Informing	Attuning	Advancing	Building
Two Different Types of Expertise in an Episode			
NPD Concept ED functional and PD strategic discuss the initial concept	*Project Plan* SM managerial and ED strategic + insights on power levers	*Market Research* SM managerial and ED strategic + market research insights	*Business Model* PD strategic and FD functional +insights from sales teams + NPD objectives
Decision Approval PD managerial and PDU strategic discuss resistance to decision	*Platform Development* SM managerial and TD functional + insights on past product launches	*Ontology Development* ED strategic and PX functional + customer feedback	*Vendor Selection* TD functional, SM managerial + vendor insights + past Pub Com preferences
A Degree of the Same Type of Expertise in an Episode			
Market Research ED managerial and LD managerial discuss managing SM	*Back Office Support* FD managerial and PD managerial + insights from editorial and sales teams	*Vendor Selection* SM strategic and LD strategic + insights from committees	*Decision Approval* SM managerial and PD managerial + insights from market research + on power levers
Project Plan SM managerial and PD managerial having update meetings	*Business Model* SM managerial and LD managerial + insights on expectations from sales teams	*Decision Approval* PD managerial and SMU managerial + insights from sales teams	*Pricing and Revenue* FD strategic and FDU strategic + insights from external auditors + approach to revenue allocation at Pub Com

Table AT5: Knowledge Value-Adding Processes – NPD Examples, Same Episode

Case NLO – Same Episode, Two Stocks of Knowledge

Informing	Attuning	Advancing	Building
Two Different Types of Expertise in an Episode			
Type of Office MDL managerial and CEO strategic discuss office options	*Pricing and Deals* SMD strategic and JD managerial + insights from sales teams on templates	*Market Research* MDL strategic and PDU functional + insights from an external consultant	*Restructuring* CEO strategic and MDL managerial + insights on office demands + impacts on existing reporting structure
Office Location MDA strategic and BD managerial discuss changes in reporting at local level	*Office Space* MDA strategic and BD managerial + insights on corporate culture at Pub Com	*Further Openings* MDA managerial and JD strategic + insights on regulations in local markets	*Sales Force* MDA strategic and JD managerial + insights from local markets + corporate culture at Pub Com
A Degree of the Same Type of Expertise in an Episode			
NLO Concept MDL strategic and PD strategic discuss a new office opening	*MD Appointment* MDL managerial and CEO managerial + insights on corporate culture at Pub Com	*Office Location* MDL strategic and CEO strategic + insights from regional law firm	*Pricing and Deals* JD strategic and SMD strategic + insights from local market + corporate centre guidelines
Sales Force MDL strategic and MDA strategic discuss sales force options	*Decision Approval* MDL strategic and CEO strategic + insights on expectations and interests of power levers at Pub Com	*Government Approval* MDA strategic and JD strategic + insights from local market and law firm	*Customer Service* SMD strategic and SMU strategic + insights from local market + corporate centre guidelines

Table AT6: Knowledge Value-Adding Processes – NLO Examples, Same Episode

Case NPD – Across Episodes / Project Level, Two Stocks of Knowledge

Informing	Attuning	Advancing	Building
Two Different Types of Expertise across Episodes			
Project Plan and Business Model SM managerial and LD functional discuss the business model	*Market Research and Decision Approval* FD functional and SM managerial + insights on expectations of key board members	*Action Plan and Type of Office* MDL managerial and CEO strategic + insights from third parties in the local market	*Steering Committee (Project Level)* SC members strategic and functional + insights from market+ project context
Steering Committee (Project Level) TD functional and PD managerial discuss platform development	*Project Plan and Vendor Selection* SM managerial and LD strategic + proposal templates at Pub Com	*Decision Approval and Office Location* MDL strategic and MDA managerial + insights from local regulatory bodies	*Ontology and Platform Development* ED functional and TD strategic + insights from vendors + group dynamics
A Degree of the Same Type of Expertise across Episodes			
Ontology and Platform Development ED functional and TD functional discuss product platform requirements	*Platform Development and Product Launch* TD strategic and PD strategic + insights on past online product launches at Pub Com	*Project Plan and Back Office Support* SM managerial and FD managerial + insights from other project teams	*Steering Committee (Project Level)* SC members strategic + insights from sales teams and end users + NPD objectives
Market Research and Decision Approval SM managerial and PD managerial discuss the business proposal	*Pricing and Revenue and Product Launch* FD strategic and ED strategic + insights on past online product launches at Pub Com	*Business Model and Back Office Support* PD strategic and FD strategic + insights from sales teams	*Platform Development and Product Launch* TD strategic and ED strategic + insights from vendor + power levers at Pub Com

Table AT7: Knowledge Value-Adding Processes – NPD Examples, Across Episodes

Case NLO – Across Episodes / Project Level, Two Stocks of Knowledge

Informing	Attuning	Advancing	Building
Two Different Types of Expertise across Episodes			
Market Research and Decision Approval MDL managerial and COO strategic discuss market analysis	*Executive Committee (Project Level)* EC members strategic and managerial + local office integration into annual operating plan	*Action Plan and Type of Office* MDL managerial and CEO strategic + insights from third parties in the local market	*Type of Office and Restructuring* CEO strategic and MDL managerial + local market insights + internal reporting
Office Location and Corporate Support MDL strategic and SMD functional discuss sales and marketing support	*Market Research and Decision Approval* MDL strategic and CEO managerial + insights on the expectations of key board members	*Decision Approval and Office Location* MDL strategic and MDA managerial + insights from local regulatory bodies	*Executive Committee (Project Level)* EC strategic and managerial + local market insights + Pub Com operating plan
A Degree of the Same Type of Expertise across Episodes			
Type of Office and Restructuring MDL strategic and CEO strategic discuss new reporting structure	*Sales Force and Customer Service* MDL strategic + SMD strategic + corporate sales capability and power levers	*MD Appointment and Office Location* MDL strategic and MDA strategic+ local market insights on regional differences	*Executive Committee (Project Level)* EC members strategic + insights from local third parties + NLO objectives
Executive Committee (Project Level) EC members strategic discuss the initial business proposal on regional expansion	*Sales Force and Hiring Staff* MDA managerial and BD/JD managerial + internal recruitment guidelines	*Action Plan and Office Space* MDL strategic and MDA/BD strategic + insights on various office spaces	*Further Office Openings and Government Approval* MDL strategic and JD strategic + insights from local market + approval from HQ

<u>Table AT8: Knowledge Value-Adding Processes – NLO Examples, Across Episodes</u>

LIST OF ABBREVIATIONS

New Product Development (NPD)

New Regional Office Location (NLO)

Executive Committee (EC)

Steering Committee (SC)

Online Strategy Committee (OSC)

Content Strategy Committee (CSM)

Planning Committee (PC)

Chief Executive Officer (CEO)

Chairman (CHA)

Chief Operating Officer (COO)

Managing Director UK (MDL)

Managing Director Asia (MDA)

Publishing Director (PD)

Financial Director (FD)

Editorial Director (ED)

Senior Product Manager (SM)

Journals Director Asia (JD)

Publishing Director US (PDU)

Sales and Marketing Director (SMD)

Senior Product Editor (PX)

Books Director Asia (BD)

Library Group Director (LD)

Exec VP Technology (TD)