Managing communities and managing knowledge: strategic decision making and store network investment within retail multinationals

Abstract

The manner in which knowledge is spatially generated, reproduced and diffused is of interest to students of economic geography and business management alike. This paper seeks to contribute to these debates by drawing on the results of a year-long study with analysts working in location-planning departments of multinational retailers to determine: a) how different types of knowledge are mediated within organisational contexts to inform store development; and b) the extent to which analysis can be successfully formalised into “best practice”. We find that while quantitative models of sales forecasting have become established, analysis on a day-to-day basis sees judgements made by analyst “communities” without perfect data, as experience and intuitive insights contribute to corporate decision-making. Furthermore, a number of communities-of-practice across the retail firm, consisting of actors with different backgrounds and agendas, contribute to outcomes. Understanding the power relations embedded within (and across) these communities is essential to conceptualise the store expansion process.

Keywords: knowledge management; retailing; store development; communities of practice

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1.0 Introduction

The geographical dimension of retailers' international expansion strategies has become an increasing concern across the social sciences and specifically demonstrates enduring linkages between work originating in economic geography and that undertaken in business and management studies (Coe and Wrigley, 2009). This paper seeks a further strengthening of links between these two disciplines by focusing on knowledge management within the retail firm and the strategic decision-making specifically relating to international store network expansion. While such a focus enriches our understanding of decision-making in context – something important within business management from a “strategy-as-practice” perspective (cf. Jarzabkowski and Spee, 2009) – it also informs economic geography research in two ways: first, in contributing to the research concerning knowledge flows within firms and the role of communities of practice in forming and leveraging insights; and second, in developing work that has focused on strategic international retail expansion and network planning more widely.

Research that addresses aspects of the international expansion of retail firms has done so from a variety of perspectives, including sourcing strategies and business ethics (Coe and Hess, 2005; Hughes et al., 2008); the mediation between standardisation and local adaptation in achieving market growth (Aoyama, 2007); the financing of expansion (Okeahalam and Wood, 2009) and the need for territorial embeddedness within local consumption cultures, planning, property and supply chain operations (Lowe and Wrigley, 2010; Tacconelli and Wrigley, 2009; Wrigley et al., 2005). More specifically, given the nature of this article, some studies have acknowledged the methods by which successful retailers learn and adapt from locational insights (Currah and Wrigley, 2004). This work has deepened our understanding of the processes underlying the spatial outcomes of retail strategy. But we argue that a substantial gap in our knowledge exists in conceptualising the ways in which retailers make the most fundamental decisions concerning the viability of new store development to fuel that expansion. In particular we need to understand how retailers synthesise information (of differential reliability) from numerous sources to forecast the potential of new stores and provide strategic advice to the wider firm regarding optimum levels of

investment. This requires us to understand the importance of intra-firm communities and networks operating at different hierarchies across competitive space.

While it is true that there is an established geographical and management literature concerning retail location planning that has sought to promote increasingly complex models and techniques to provide objective assessments of market potential (Birkin et al., 2002), work from business management suggests that the degree to which these techniques and models are employed is, in reality, highly variable between retailers (Hernández and Bennison, 1998; Reynolds and Wood, 2010). Furthermore, the link between the deterministic outputs of the models and portfolio decision-making practice is far less straightforward than one may expect (Clarke and Mackaness 2001; Clarke et al., 2003a; Clarke et al., 2003b; Wood and Tasker, 2008; Wood and Reynolds, 2013).

The distinction between decision-making in practice versus theoretical modelling of those decisions therefore raises the question of how retail TNCs mediate between different types of knowledge in business strategising and, more broadly, how the better management of knowledge may lead to competitive advantage. The method by which knowledge is generated, reproduced and diffused through firms has been an important topic throughout the social sciences, especially since the influential work of Nonaka (1994; Nonaka and Takeuchi, 1995), which analysed the nature and dialogue between tacit and explicit/codified knowledge in contemporary business. Subsequently, economic geographers have analysed the geography of knowledge within economic activity both in terms of conceptualising the agglomeration and clustering of business within regions (Gertler, 2003; Giuliani, 2007; Henry and Pinch, 2001; Jenkins and Tallman, 2010) but also – to a lesser extent - how that knowledge is utilised and harnessed at the firm level across a range of industries (Alexander et al., 2005; Beaverstock, 2004; Coe, 2005; Faulconbridge, 2006; Grabher and Ibert, 2006).

In this paper, we therefore report findings of a research study of store location decision-making within retail firms derived from a questionnaire survey and in-depth semi-structured interviews with senior management (see Appendix I) to respond to two particular research questions:

1. How are different types of knowledge from different sources balanced and mediated within the organisational context of retailers to inform decisions concerning store development?
2. To what degree are knowledge management principles successfully formalised into routines and “best practice” within location planning communities?

The paper is organised as follows: we first analyse the linkages between the business management and economic geography perspectives concerning managing knowledge within firms. In doing so, we underline the degree of commonality that exists between the two approaches, even if they have all too often developed as two distinct literatures. Second, we briefly summarise the importance of portfolio management within retailing and the treatment that this has had within the retail and economic geography literature. Third, using the results of our research study with retailers, we review how retail firms appear to balance different types of knowledge within decision-making in practice and examine the role that organisational context has in the success of this process. We also analyse how retailers attempt to leverage tacit knowledge within the firm to improve accuracy and leverage expertise. Fourth, we summarise the implications of these findings for the disciplines of economic geography and business management more broadly.

2.0 Managing knowledge: perspectives from economic geography and management studies

Economic geographers have a long history of examining the relationship between knowledge flows and the spatial outcomes of economic activity. Over the past two decades this has been seen in a range of research that has examined the clustering and agglomeration of industry. Significantly, there has been a tendency for economic geographers to develop research concerning knowledge management that originates from business management (Gertler, 2003). However, the extent of reciprocal integration (from economic geography into business management) has been less apparent - another example of multi-disciplinary rather than inter-disciplinary interaction (cf. Coe and Wrigley, 2006; Palmer et al., 2006). In employing both literatures this paper seeks to offer a degree of complementarity.

2.1 The facilitating role of knowledge in spatial agglomeration

An influential stream of economic geography research has examined the emergence of industrial districts and regional clusters of economic activity in terms of conceptualising the knowledge-related “glue” that promotes a spatial fix to a locale or wider region (Martin and Sunley, 2003). This has seen a focus on a range of locations with deeply embedded linkages to specific industry sectors such as Silicon Valley (IT sector) (Crescenzi et al, 2007); Cambridge (biomedical sector) (Garnsey and Heffernan, 2005); Soho, London (media industries) (Grabher, 2001) and even the motorsport industry in southern England (Henry and Pinch, 2001; Jenkins and Tallman, 2010). This research has focused on the role of [regional] culture[s], interaction and knowledge in underpinning such spatial agglomeration (Gertler, 2008).

Work concerning regions has intersected with the broader literature in management studies relating to knowledge management (Tallman et al., 2004), which has argued that organisational knowledge within and between firms is created through the process of an interaction between tacit and explicit/codified knowledge (Nonaka, 1994; Nonaka and Takeuchi, 1995). Drawing on the earlier work of Polanyi (1966), tacit knowledge is regarded as ‘highly personal and hard to formalize, making it difficult to communicate or to share with others’ as it is ‘deeply rooted in an individual’s action and experience as well as in the ideals, values, or emotions he or she embraces’ (Nonaka and Takeuchi, 1995, 8). Meanwhile explicit/codified knowledge is ‘something formal and systematic’ and ‘easily communicated and shared in the form of hard data, scientific formulae, codified procedures or universal principles’ (Nonaka and Takeuchi, 1995, 8).

This literature has directly led to tacit knowledge being widely regarded ‘as a prime determinant of the geography of innovative activity since its central role in the process of learning-through-interacting tends to reinforce the local over the global’ (Gertler, 2003, 76). This is played out via informal interdependencies between firms based on the movement of employees, common supplier linkages and the circulation of shared beliefs and discourses (Turner, 2009). Indeed, face-to-face and therefore tacit knowledge supports communication ‘particularly when much of the information to be transmitted cannot be codified’ and where socialisation supports the building of trust

(Storper and Venables, 2004, 353; Faulconbridge, 2006). This is seen as leading to a localized “buzz” of face-to-face relations consisting of ‘intended and unanticipated learning processes in organized and accidental meetings, the application of the same interpretative schemes and mutual understanding... which stimulate the establishment of conventions and other institutional arrangements’ (Bathelt et al., 2004, 38). In the localised advertising industry in Soho, London, for example, this is referred to as an ‘ecology of creativity’ that links the often global firm with local practices and cultures (Grabher, 2001). Ultimately this leads to firms becoming ‘embedded’ within an area and also to the possibility of knowledge spillovers between firms (Giuliani, 2007; Grabher and Ibert, 2006). As Amin and Thrift (1994) suggest, tacit knowledge contributes to an ‘institutional thickness’ within a locality as growth is embedded within economic, cultural and institutional conditions as ‘being there’ underpins the joint production, circulation, and sharing of knowledge’ (Gertler, 2008, 203).

2.2 Overcoming a binary view of knowledge

The binary perspective positioning tacit knowledge as operating at the ‘local’ versus explicit knowledge at the ‘global’ scale has not escaped criticism (Gertler, 2003; Pinch et al., 2003). The mediation between the two types of knowledge across industries and individual firms is, it is suggested, far more complicated. Amin and Cohendet (2005) examine the spatial dimension of learning and knowledge within firms and find that, while economic geography has deepened our understanding of this process through notions of territorial embeddedness and the role of spatial proximity, ‘knowing’ can be less spatially bounded (Amin and Cohendet, 2005).

Whilst therefore tacit knowledge is critical in creating a “buzz” in a city or locale it is also clear that businesses are simultaneously adjusting to connect to wider global networks (Huggins, 2008). Bathelt et al. (2004, 42) suggests that firms mediate between local knowledges and wider ‘global pipelines’ which enable an actor ‘to go beyond the routines of the local cluster’. In addition, the trend toward expatriation acts as a process of creating transnational communities within the firm that mediate between the local and global knowledges and ‘know-how’ (Beaverstock, 2004). However, it is also suggested that the degree of ‘absorptive capacity’ in part determines the extent to which external resources and ‘know-how’ are practically available for exploitation (Hervas-Oliver and Albors-Garrigos, 2009). The firm’s

internal resources and capabilities ‘to transfer and absorb knowledge at a local level’ becomes of considerable importance (Giuliani, 2007, 140), as does its corporate culture. This serves to underline how distance and embeddedness are insufficient to wholly explain innovation (Crescenzi et al., 2007).

Faulconbridge (2006, 517) argues that we need a more nuanced understanding of the relationships between knowledge, firms and regions in the context of ‘the existence of multiple geographies of tacit knowledge’. Similarly Gertler (2003, 76) argues tacit knowledge is considered in a ‘somewhat loose and indiscriminate way’ and that we need to reassess its origins, better appreciating ‘the role and nature of context’. Using a case study of global advertising firms, Faulconbridge finds that the traditional territorially ‘sticky’ view of tacit knowledge is too simplistic having identified two different epistemologies of organizational leverage: knowledge transfer (e.g. best practice) and the social production of new knowledge. He suggests that this recognition underlines how knowledge and learning can, in many cases, ‘have global geographies that are less impeded by the cultural and institutional embeddedness of economic practice’ (Faulconbridge, 2006, 258). Sometimes referred to as ‘globally stretched learning’, he argues that this can lead to a ‘cognitive convergence’ across significant distances.

Our conceptualisation of what constitutes proximity has also developed. Initially, ‘it was assumed that relational proximity and spatial proximity were one and the same’ (Amin and Roberts, 2008b, 28). However, Blanc and Sierra, (1996) suggest that there are multiple types of proximity including organizational proximity (based on common approaches, language and specific job roles within the firm); relational proximity (based on a shared language and approach to work); institutional proximity (specific to a sector or individual firm) and temporal proximity (that refers to the future vision and strategy of the firm or industry) (Faulconbridge, 2006). Proximity is also being facilitated more easily through technology - for example tacit knowledge can travel via ‘virtual buzz’ and the social media associated with the internet (Jones et al., 2010). Meanwhile Gertler (2008, 207-8) argues that social affinities ‘can compensate for the absence of spatial proximity and enable long-distance learning’.

Pinch et al. (2003) usefully contribute to this literature by making a distinction between knowledge that operates at the different levels and spatial scales of the firm. They distinguish between “*component knowledge*” that refers to specific resources, skills, information and technologies that relate to identifiable parts of the organisational system, as opposed to “*architectural knowledge*” that relates to the organisation of the entire system and its structures and routines for organising knowledge for use (core competencies; routines; capabilities etc.). The latter may therefore be more easily spread to influence the regional culture through inter- and intra-firm linkages and the churn associated with employee turnover in particular localities. In contrast, component knowledge is more likely to be seen in a department or work unit within a firm and therefore less likely to have such wide ranging influences to industrial agglomeration and cultures. Hence, a firm’s competencies can be located within particular parts of the business and not all knowledges or cultures will pervade the entire firm.

2.3 The role of context and practice

This research base has served to underline the manner in which any conceptualisation of managing knowledge needs to be framed as a ‘situated practice embedded within distinctive communities and actor networks ...[where] the powers of context – spatial and temporal – should be placed at the centre of any theorization of knowledge formation’ (Amin and Cohendet, 2004, 86). As a result, knowledge must be considered as a process and practice rather than a possession, with a distinction made between theoretical knowing and the actual knowledge that is useful in practice (Duguid, 2005).

Just as the company is embedded within a region, so it is also essential to see decision-making embedded within the wider company, department and in time and space (Strauss, 2009; Sunley, 2008). Similarly, employee ability and personal outlook is framed by experience but also by such factors as educational background (Hall and Appleyard, 2009). In practice human rationality is bounded which means that individuals may utilise heuristics (mental short cuts) rather than engage in ‘exhaustive optimisation strategies’ (Strauss, 2008, 141). This opens up the role that intuition and imitation may play within complex situations and time constraints (Strauss, 2008).

The clear distinction between the identities of the individual, department and the firm means that there may be a potential conflict between goals and objectives (Grabher and Ibert, 2006). In addition, while the firm may aim to overcome such mismatches – for example with the role of so-called “knowledge activists” who aim to span boundaries within the large organization, acting as agents for the diffusion of tacit knowledge’ (Gertler, 2003, 88) – this may prove insufficient. Indeed there are wider sources of knowledge that may inform decision-making. Grabher and Ibert (2006) conclude that individuals often supplement knowledge networks within the firm with their own personal networks thereby partially overcoming deficiencies in the organisation. An understanding of knowledge management must encompass the wider role of these networks in affecting decision-making and strategy formation:

‘Since the firm no longer constitutes the exclusive learning arena, individual practices necessarily draw on the personal relational space that extends far beyond the current firm. The ambiguity of identities, however, almost unavoidably inflicts tensions within the personal networks when they might be instrumentalized either for achieving the project goal, contributing to the aims of the firm or advancing the own career’ (Grabher and Ibert, 2006, 258).

Similarly, Giuliani (2007) differentiates between a knowledge base within the firm (e.g. training course; research & development and human resources); a knowledge network (linkages with the other firms and how knowledge is spread between them); and a wider business network which may extend beyond the firm.

2.4 Communities and knowledge management within and beyond the firm

Closely related to the work recognising the role of networks in managing knowledge, the management and the economic geography literature has examined the role of communities within firms and regions in the creation, transfer and reproduction of knowledge and learning (Amin and Cohendet, 2004; Amin and Roberts, 2008a). *Communities of Practice* (CoP) is a widely used term first coined by Lave and Wenger (1991). While the meaning of the term has developed over the past 15 years (Duguid, 2008), and often incorrectly heralded as ‘a tool of analytical certitude and policy intervention’ (Amin and Roberts, 2008c, 14), it is generally understood as:

‘groups of people, often within the boundaries of single organizations or pre-established inter-organizational alliances, who are engaged in the same practice

and who communicate regularly with one another about their activities. This communication contributes to the solution of practical problems, but, at the same time, bridges the gap between theoretical and practical knowledge' (Moodysson 2008, 453).

Indeed, given their face-to-face interaction, CoPs facilitate knowledge generation via 'identity formation through participation and the negotiation of meaning' (Amin and Roberts, 2008b, 355). These communities may (but do not always) extend their influence and participation beyond the single firm to include customers or suppliers, given that tacit knowledge can flow across organisational boundaries (Gertler, 2003, 86), leading Alexander et al. (2005, 809) to suggest that 'knowledge seeking can be undertaken in multiple communities of practice, inside and outside the firm, and the organisational challenge involves facilitating the successful transfer of this knowledge through a "learning architecture"'. In turn, the concept develops an appreciation of the role of personal contact in fostering knowledge, interaction and creativity 'born out of habituated practice (rather than competencies mastered in isolation or bundles of codified knowledge unproblematically transmitted down the chain)' (Amin and Roberts, 2008c, 14).

Actors who span boundaries between communities are important in the learning process in two ways. Brown and Duguid (1998) note the significance of 'knowledge brokers' and 'translators': the former being those actors who integrate important sub-groups within a knowledge network; while the latter refers to those individuals who frame the interests and knowledge of one community in terms of another community's perspective – something that requires a degree of understanding of both contexts (see also Cross et al., 2006). Clearly, such actors play a significant role in influencing ultimate decision-making (Alexander et al., 2005). But as a consequence therefore, it is the flows of tacit knowledge within the community (or communities) which are instrumental in achieving progress. This contrasts with a resource-based view of the firm in which objective competencies automatically lead to success (Amin and Cohendet, 2004; cf. Prahalad and Hamel, 1990). Indeed, the exploitation of a firm's capabilities is increasingly seen as relying on work contexts and decision-making structures to prosper (Kay, 2010).

As Faulconbridge (2006) and many others (e.g. Amin and Cohendet, 2004) have noted, such communities enable learning as they permit a group of individuals to come together in a shared enterprise, often within a routinised context, to work together on developing understanding that stretches beyond local communities, work teams or departments within the firm. Such learning can take place as an incremental process as well as a radical, innovative departure from established norms (Amin and Cohendet, 2000). There is some debate over extent to which distantiated communities of practice can support learning, despite the increasing sophistication and usage of ICT technologies within multinational firms (Gertler, 2008). Indeed, it can be challenging to meaningfully link up ‘local islands of knowledge spread all over the world’ (Amin and Cohendet, 1999, 93) because it is evident that communities in knowledge management are inherently social phenomena (Scarbrough and Swan, 2008).

An uncritical use of the concept of community to characterise the management and creation of knowledge within the firm and across space is, of course, open to challenge. For example, Roberts (2006) argues that the concept as presently understood overlooks the differential power relations between members *within* the community that will likely have implications for participation and trust within the group. She also argues that power may also be unevenly distributed *between* communities and senior actors within the firm, thereby further distorting and restricting the potential benefit that such knowledge may otherwise contribute. In the case of established communities, Roberts suggests that rigidity and resistance may develop, which will serve to limit receptiveness to particular types of knowledge and interpretation, and thereby affect the ability of the firm to adapt. This may possibly lead to lock-in and path dependency, outcomes that echo debates concerning issues of corporate lock-in elsewhere within the geography and management literatures (cf. Schoenberger, 1997; Wood and Reynolds, in press).

In this section, we have sought to gain an appreciation of the scholarly development of the geography of knowledge, primarily through the work of economic geographers. It is clear that, whilst tacit knowledge supports localisation, a binary divide between global-explicit versus local-tacit knowledge is far too simplistic. We have seen how firms and individuals generate knowledge networks within and beyond the firm, but

have also identified the role of knowledge communities in developing the role of sociality and context in informing practical knowledge management and decision-making across a wide variety of spatial scales. We now turn to location planning within retailing to investigate how knowledge and decision-making is facilitated within organisational contexts at the firm level, and how this affects developing retail geographies.

3.0 Assessment techniques and identifying the location planning department

Retail location planning is a complex process that includes the development of new stores along with the maintenance, management and enhancement of the existing portfolio of units (Bennison et al., 1995). Within medium and large retail organisations a location planning department is typically responsible for devising and recommending a desirable spatial and format-related strategy for portfolio growth and management, as well as for forecasting the likely sales of specific development opportunities – whether this is via new (organic) store developments, replacement units, extensions, re-fascias, acquisitions or closures (Birkin et al., 2002; Hernández et al., 1998). Such teams are therefore required to analyse and synthesize an extensive range of knowledge relating to the geodemographic and competitive nature of catchments to provide sufficient strategic insight to allow senior management to make an informed decision – something exceptionally important in the context of international retail development that may involve entry into challenging, ‘particularistic’ markets (cf. Whitley, 2001). By calculating sales estimates, teams not only provide an indication of the affordability ceiling for specific development opportunities but also offer a strategic analysis relating to the appropriateness of any initiative. In the context of increasing domestic and international competition for retail sites and the often sizeable sunk costs implicit in store estates (Clark and Wrigley, 1997; Wood et al., 2010), reliable and accurate forecasting is more essential than ever.

Given their important role, location planning departments may work alongside a range of different actors and departments (see Table 1) and are often centrally located within a well-structured decision-making process (see Table 2). From a *Communities of Practice* perspective, given their specific area of expertise, location planners act both

as ‘translators’ in expressing complex knowledge in a format framed for strategic decision-making as well as ‘knowledge brokers’, in being disproportionately important in holding the store development decision-making network together (cf. Brown and Duguid, 1998; Cross et al., 2006).

[Take in Tables 1 & 2]

Unsurprisingly given the spatial focus of this process an extensive historical research literature within economic geography exists concerning forecasting methodologies for retail stores (Applebaum 1966; Applebaum 1968; Birkin et al. 2002; Davies and Rogers 1984; Mendes and Themido 2004; Wrigley, 1988). The focus of much of this research has been on the development of a range of modelling techniques to allow analysts to increase decision accuracy. For example, the use of regression models and multivariate statistics are commonly discussed (Davies 1977) in seeking to assess quantitatively the extent to which independent catchment variables account for sales performance. These models range in complexity, the computing power required and consequently the quality of the required data inputs. However, as Clarke et al. (2003b) notes, the outputs from such analyses are ‘aspatial’ which means that decision-makers may struggle to relate to or accept the results in isolation. The use of analogous stores to aid the forecasting of new sites is another widely established procedure employed to inform sales estimates (Rogers and Green, 1979). However, the success of this technique depends both on the existence of, along with the analyst’s ability to identify, stores in the current portfolio that are similar to the site and wider catchment under examination (Applebaum, 1966).

In the past two decades, the potential long known to exist in spatial interaction models has become a practical reality, largely due to the increasing availability of data and associated desktop computing power (Birkin et al. 2010). These procedures focus on identifying the ‘break point’ between the catchments of stores, thereby allowing the estimation of a unit’s likely trading patterns. While historically criticised as a “black box”, the ability of analysts to understand and critique the outputs of such models has improved with the emergence of Geographical Information Systems (GIS) that facilitate the presentation of a wide array of economic and social spatial data in a highly visual and an increasingly digestible form (Elwood, 2009; Hernández, 2007).

Despite this largely prescriptive literature, the small amount of research that has examined retailers' location planning *in practice* suggests that there is a wide variation in the use of analytical techniques and the subsequent decision-making processes (Hernández et al., 1998; Pioch and Byrom, 2004; Reynolds and Wood, 2010).

3.1 Store forecasting: manipulating a synthetic knowledge base within a community of practice

Actors (analysts and management) within store location departments interact across a number of ongoing communities of practice and are continually negotiating different knowledge bases in order to provide accurate guidance for strategic decision-making. Amin and Roberts (2008b) categorise different types of communities of practice relative to the properties of different communicative settings of situated knowing. They produce a four-fold typology of collaborative working: (1) craft or task-based work, (2) professional practice, (3) epistemic or high-creativity collaboration, and (4) virtual collaboration. Arguably store location analysis can be regarded as epistemic/high-creativity collaboration that demands 'specialised and expert knowledge', some degree of spatial and relational proximity to facilitate communication among the team, with trust based on expertise and established reputations in the field and with a group or project managed focus.

Given the clear balance that is required between explicit and tacit knowledge in location planning decision-making as well as in the context-specific nature of store catchments and data availability, it is clear that analysts and senior management are negotiating what Gertler (2008) refers to as a 'synthetic' knowledge base (see Table 3). Synthetic knowledge, he argues, sees an emphasis on "know-how" and the application of existing knowledge in new ways. It tends to be context-specific as 'knowledge embodied in technical solutions is at least partially codified' yet at the same time 'tacit knowledge tends to be very important' and 'resides in concrete know-how, craft, and practical skill' (Gertler, 2008, 215). It is this knowledge management challenge that faces location planning analysts and sees a focus on communities as key to resolving many of the poorly defined issues.

[Take in Table 3]

4.0 Location planning decision-making across different communities of practice

It is clear from our research and previous studies (e.g. Clarke et al., 2003a, 2003b) that the specificities of the location forecasting process present a significant challenge in mediating between the qualitative observations and opinions of analysts and management on the one hand, and the codified outputs from models on the other. We found that debate manifests itself within inter- and intra- departmental location planning communities of practice that are varied in group make-up and size (see Table 4). Such discussion is further complicated as different actors in the decision-making process possess different understandings of what drives store performance. As Clarke and Mackaness (2001, 166) note, senior managers' perspectives are less evidence-based than analysts – possibly where they rely more readily on a tacit knowledge of place and experience for decisions and 'simpler cognitive explanations, putting greater reliance on key constructs and a higher proportion on non-factual information'. We examine each community in turn.

[Take in Table 4]

4.1 Location planning department community of practice: theoretical approaches versus practical execution

At the most obvious and immediate level, analysis and subsequent internal debate regarding appropriate portfolio strategy and specific development sites occurs within the *location planning department community of practice* – the team responsible for providing the analysis relating to potential development opportunities. Our interviews within these departments have underlined the degree to which the successful application of theoretical techniques or models to forecasting challenges is rarely clear-cut but relies on discussion and mediation of codified outputs within the community.

At times, the utility of codified knowledge is constrained due to the limited availability of appropriate data that restrict its successful introduction into office-

based forecasting models (cf. Moutinho et al., 1993; Wood and Browne, 2007). In a practical sense this results in commercially available data sets and modelling techniques which are insufficiently tailored to either the spatial scale or locality under investigation. Consequently, analysts have to collect data from the ‘bottom up’ through visits to potential development sites and catchments in order to provide tacit knowledge concerning site quality that is employed to calibrate the data within models and “sense check” the outputs:

“I don’t think I’ve sent any sites to the Board here with my name on a report when I haven’t seen the site... [Our focus is on] access, visibility, what’s the state of the competition as well, because it varies so much... Because our independent and smaller chain data is patchy, you wouldn’t know unless you’d been to visit that store... For the site characteristics and the competition characteristics, I think it is actually vital” (Site Research Manager, Food Retailer).

Given the blend of codified outputs from models and tacit-based observations from experience, intuition and site visits that individual analysts manipulate, we find that location planners often have to employ a combination of experience and intuition in both their validation of the relative merits of different forms of outputs, as well as in terms of the decision-making processes themselves.

“we have a model, it spews out a result, sometimes you believe it, sometimes you don’t believe it. There are a number of factors related to a particular opportunity that you haven’t got data to describe, then you’re having to make some allowance for [its] impact ... it’s a case of using intuition, and often caution” (Customer Analysis Manager, Department Store Retailer)

Especially in the case of new formats and new locations, the intuitive implementation of experience was required where there were few analogous stores to calibrate expectations:

“Now, it’s almost impossible to make a realistic judgement about what will happen in Oxford Street [London], because X might take 10 million and Y might take 5 million and you can’t really understand the difference; why that would be. So I haven’t got another store to compare that with in our portfolio” (Country Manager, Clothing retailer).

In such circumstances an analyst’s experience (and the experience of colleagues within the CoP) becomes critical. The tendency to resort to both experience and intuition to aid decision-making is well-known within the management literature

(Hodgkinson et al., 2009). The former relates to expertise that has built up over time, is stored within a mental map or schema and influences conscious thought, though ‘not always by any apparent deliberative rational means’ (Sadler-Smith and Shefy, 2004, 79). Similarly, intuition ‘is a capacity for attaining direct knowledge or understanding without the apparent intrusion of rational thought or logical inference’ (ibid., 77). Therefore, under ‘ambiguous, data-poor and time-pressured’ conditions, it is understandable that ‘experts may rely on informed, as opposed to naïve, intuitive judgments in ways that take into account the unique features, subtleties, novelties, nuances, and demands of the situation’ (Sadler-Smith, 2008, 495). This is not analysts simply neglecting necessary rigour: rather, intuitive judgments are based and acquired ‘through explicit and implicit learning processes through extensive experience, often accompanied by intense, focused, and deliberate practice, in a specific domain’ (Sadler-Smith, 2008, 495).

Such potential lack of clarity between codified (modelled) knowledge and intuitive and tacit based perspectives evidently places high importance on building a blend of skills (business awareness and technical) and a corporate culture that encourages both analytical rigour and opportunities for group discussion and sharing of theories and ideas. As one director of store development for a large non-food retailer commented, the forecast ultimately stems from a mix of art and science:

“rather than an all-singing, all-dancing model, I much prefer to use a series of heuristics, series of rules of thumb, and it’s almost like a fistful of darts. ... You throw it at the dartboard, then you get a shape, and you sort of know from that shape the solution is probably somewhere inside there, so there’s a lot more smart interrogation by the analysts to say, okay, well, for this particular type of store, I don’t believe that little model quite as much as I believe that one... so it’s that mixture, which I think will always continue, of art and science in the process” (Director of Store Development, Non-Food Retailer).

Inevitably this demands flexible working practices as the approach adopted very much depends on the quality of the data available to the analyst team:

“it’s not an adherence to a black box, it’s not an adherence to a neural network; it is this smart interrogation of all of the information that we’ve got available. So that’s the culture that we’ve... bred” (Director of Store Development, Non-Food Retailer).

Often, modelling was seen as only the starting point of the decision-making procedure. As two analysts suggested, the modelling procedure acted as the catalyst for team-based debate within the CoP:

“This is a modelled approach, this is the modelled outcome, and we’ll use that as the base point for the discussion on should we have this store or not” (Location Planning Analyst, Food Retailer).

“you will have... a debate, and the number will emerge out of that. That’s actually not a bad process. You know... some bits of it are not desperately scientific” (Commercial Information Manager, Electrical Retailer).

The management of location planning departments has therefore required analysts to combine highly technical modelling capabilities with a flexible approach and practical business acumen:

“I need analysts who technically are very good... [but] are capable of not getting too hung up on being very purist. So I kind of need people who’ve got a bit of a pragmatic bent about them and are not unhappy when the business... doesn’t accept... this perfect version of the world that they’ve built in the model” (Site Research Manager, Electrical Retailer).

Along the way, it has become clear that the role and employment of technology in practice is an ‘emergent process’, thereby challenging the view within some management research ‘that technology is an autonomous, external force’ (Orlikowski, 2010). Instead, as Orlikowski (2010, 131) herself argues, the practical role of technology is ‘socially defined and socially produced, and thus as relevant only in relation to the people engaging with [it]’.

4.2 Portfolio organisation community of practice: ensuring common consent and “buy-in” with relevant actors

Before any site is taken to senior management for decisions, different stakeholders within the retailer have to work together to make progress with issues specifically relating to the development scheme (e.g. proposed store size, car parking). This often brings location planning analysts in contact with executives from an array of other departments including space planning, finance and property functions. We refer to this group as a *portfolio organisation community of practice*.

Such meetings offered the opportunity for location planning departments to affect the nature of the proposed development but also to ensure that the expectations of stakeholders within the retailer regarding the sales forecast were managed. It was particularly important to influence powerful actors located within senior positions in the corporate hierarchy, given their disproportionate influence on site progression:

“A lot of the groundwork is done prior to actually recommending it to the Exec.... I would have got buy-in from the regional manager/store manager, and then the Operations Director.... [The CEO] would be made aware of the stores that we’re looking at, and when we’ve got a unit that we think is right” (Property Director, Non-Food Retailer).

Other retailers’ location planning teams were deliberately less precise in their estimation and produced a range of potential forecasts which then led to discussion and input beyond the specialist analyst team:

“when we come out with a figure, what we actually do is come out with a range, and the retailers... can challenge whereabouts within the range they want the final projection” (Retail Location Analysis Manager, Food Retailer).

In some instances meetings occurred with the sole intention of “selling” the location planning forecast to stakeholders prior to interrogation from senior management at Board level – effectively to avoid “grandstanding” by stakeholders at such an important point in the decision-making cycle:

“it goes to effectively a pre-meeting beforehand anyway, where we will be looking at the proposed catchment and we will be explaining what we’re doing and why we’re looking at a certain store, why this has come up over something else. So we’ve effectively got a buy-in beforehand” (Location Planning Manager, Electrical Retailer).

Clearly the management of interaction between different communities within the firm presents significant challenges. However, if handled carefully, such intra-firm practices can become embedded within well-established and legitimised location planning communities. For example, once meetings between a wide variety of stakeholders are systematically organised and timetabled, it may be increasingly possible to ensure coherence and adherence to formal process. Such practices serve to

systemise the role of location planning knowledge in shaping interpretations and expectations of the appropriateness of particular types of locations, as well as the suitability of specific turnover ranges prior to any firm recommendations being advanced at Board level. Such practices are therefore essential in engaging ‘allies and supporters to ensure that they circulate more widely beyond their immediate... communities’ (Lee et al., 2008, 1112)

4.3 Portfolio decision-making community of practice at senior management board level

Recent research within economic geography has underlined the extent to which practice within networks and communities is embedded within what Yeung (2005) refers to as ‘relational geographies’. As Lai (2010, 8) suggests:

‘Networks do not necessarily fuse the self-interest of different actors into a harmonious and egalitarian whole but may be characterized by inequalities of power, strategic coalitions, dissembling and opportunistic collaboration’.

Just as there are power relations between managers and analysts internally within location planning departments, so these inequalities of power become more pronounced when interrogated by senior management in the *portfolio decision-making community of practice*. Indeed, it is well known that decision-making regarding retail expansion involves intense processes of ‘argumentation’ between key actors (Palmer and O’Kane, 2007). In most instances the location planning manager presented and justified the forecast sales to senior management. However, in other instances, location planners struggled to establish adequate legitimacy and sometimes even failed to obtain a place “at the table” to influence decision-making:

“[Our head of team is] trying to get them [the Board] to agree to let him be present at the [decision-making] meeting, because currently he’s not, and we don’t get a copy of the minutes, so we don’t know whether it’s been approved, whether they agreed our sales number, or whether they approved it on their own number. We don’t know whether our reports get edited” (Site Research Manager, Food Retailer).

At other times, it is not always apparent that the sales forecast used to support the decision was that produced by location planners, given the internal politics of the organisation:

“there have been times when the sales number that goes up is not the sales number that we’ve given them... [At the meeting] I can challenge that and we can talk about why we’ve agreed that and all the rest of it” (Commercial Information Manager, Electrical Retailer).

Such instances led some location planning departments to become much more aware of the need to legitimise and “sell” the concept of location planning to influential stakeholders within retailers:

“they need to fundamentally understand how you arrived at an answer.... you don’t necessarily show people the model itself, you don’t necessarily show them an algorithm, but ...enough for people to know that there is some science involved, but you can present your analysis in layman’s terms quite easily actually” (Location Planning Manager, Non-Food retailer).

This requires the selection of location planners and analysts who are best skilled at representing the results of the community’s analysis elsewhere in the firm. A consequence, as Roberts (2006, 635) has noted, given that knowledge is transferred by social interaction within communities, is that recruitment and training policies must ‘maintain an appropriately skilled workforce to maximise the benefits of communities of practice’.

5.0 Developing “best practice” within a location planning community of practice

In developing best practices or forecasting routines, it is clear that retailers are attempting to develop – to some degree – more standardised forecasting procedures to be pursued regardless of the individual analyst. However, analysts are also tasked with adapting to specific circumstances and contexts. Indeed, recent research has focused on the role of relational practices in economic geography. Such practices are noted for their openness ‘to improvisation and accident’ alongside the influence of more structural forms of power, social relations and assumptions of rationality (Jones and Murphy, 2010). Given the role of context, sociality and power Faulconbridge (2006, 526) notes in the advertising industry that:

‘the social production of knowledge as a practice is not about adapting existing practices to suit local conditions, but using social interaction to inform understanding and develop new logics’.

Appropriate work practices are therefore flexible and seen as collectively legitimised through everyday social action, which are embedded with considerable tacit knowledge (cf. Jones and Murphy, 2010). The implications of this for location planning activities is that while management may wish to reduce analyst activities to a number of clearly defined, unambiguously codifiable tasks and process controls, in contrast ‘tacit process-related knowledge cannot be broken down in such an unambiguous manner.’ (Turner and Makhija, 2006, 198). There is instead a requirement to balance rational and analytical depth with embedded flexibility and reflection within routines to provide an outlet for community discussion and engagement. As such, there are limits to the extent to which one can practically make tacit knowledge explicit (Lee, 2005). Similarly, it is argued that ‘conceptions of either meaning or context as stable objects, generalizable across organizations, are likely to prove inaccurate’ (Thompson and Walsham, 2004, 735). This places an emphasis on building a corporate culture that encourages group-level debate and interaction, while placing an emphasis on rigorous data analysis and justification of views and perspectives. The balancing of corporate cultures has been well recognised within the economic geography literature, especially in terms of adapting to new spaces and places (e.g. Faulconbridge, 2008; Wrigley et al., 2005), but rarely in terms of retaining flexibility of routines to allow combinations of different knowledges and the consideration of argumentation in decision-making.

Such fluidity has implications for the manner in which analysts are given freedom to explore new techniques or ways of investigating location planning phenomena but also for the methods used to develop and train new analysts. We found that there was a focus - after an initial period of gaining familiarity with modelling techniques – on mentoring and learning alongside experienced analysts. This was considered to be the most appropriate method by which to synthesise the modelling and observation necessary to produce a considered forecast.

“It’s not a job that you can walk into and know how to do after the training process... Once you’ve been trained how to push the buttons, that’s when you

actually start learning how to do the sales forecasts” (Site Research Manager, Food Retailer).

More broadly, given the value of experience and tacit knowledge, it is challenging to retain key learning and knowledge within the department and localised analyst community. While analysts may learn from their mistakes, it is essential that this is leveraged across the team. This is often problematic given high workloads within modern retailing which means that there is perceived to be insufficient time available to ‘make knowledge available, share it with others, teach and mentor others, use their expertise to innovate, or find ways of working smarter’ (Alavi and Leidner, 2001, 127). However, a focus on these issues is essential as are ‘ensuring practices are in place to allow ideas and insights to be shared that can be learned from and built upon by individuals in the organization so as to inform the future thinking’ (Faulconbridge, 2006, 526). The ways in which retailers attempted to retain corporate memory were varied and met with mixed success:

“there’s a certain amount of knowledge that you can codify, and some of the knowledge gets codified in terms of the practices” (Site Research Manager, Food Retailer).

“The bits...we do keep a record of all our output, and we have got... training manuals and kind of “how to” guides on the technical bits of how you run a forecast and how the model works... The bit we’re bad at kind of systematically capturing...is some of the more conversational stuff that comes out of meetings...[which] we tend to be more reliant on, you know, remembering” (Location Planning Manager, Electrical Retailer).

“There’s a certain element of knowledge being gained via osmosis.... We do take in knowledge just from looking at data - you don’t necessarily have to codify it – and then that can inform you going forwards” (Location Planning Analyst, Food Retailer).

Our interviews also underlined the extent to which the boundaries around communities of practice are permeable and may extend beyond the company (cf. Amin and Cohendet, 2004). Analysts frequently mentioned attendance at conferences and meetings linked with industry bodies. Associations such as the Society for Location Analysis (SLA) and the Demographics User Group (DUG) provided a platform and environment where analysts could discuss challenges and problems with data, forecasting and decision-making. We refer to this in Table 4 as a *location*

planning knowledge building and networking CoP. Such boundary-spanning activity often prompted the suggestion that within such forums, knowledge was freely shared and common problems discussed:

“I think there’s almost a fraternal ...feeling between site researchers in different firms... People move from one firm to another and take a certain element of that institution’s knowledge on to another, a bit of cross-pollination” (Location Planning Analyst, Food Retailer).

Such extra-firm networks provide a good example of knowledge being accessed by actors beyond the local milieu and ‘buzz’ of the firm or region – what Bathelt et al. (2004) have referred to as accessing global ‘pipelines’, or channels of communication. While these fluid and sometimes informal communities of practice often benefitted analysts and ultimately the constituent retailers, some operators were reluctant to allow their analysts to attend such meetings – or restrict attendance to a few select analysts. This had the effect of maintaining a control over analyst development but also restricted analyst contact with possible career opportunities beyond that retailer.

6.0 Conclusion

This paper has sought to contribute to the work underway, within both economic geography and management studies more broadly, concerning the relationships between economic activity and the management of knowledge. We have argued that while economic geographers have paid specific attention to the implications of knowledge management for regions through work on clusters, they have been less exercised over the mediation of knowledge in decision-making at the level of the firm. We argue that understanding these processes at the fine-grained spatial scale of the firm is essential if we are to fully appreciate the dynamic geography of economic activity and, in our case, the spatial consequences of retail locational decision-making. As a result, we have identified five sets of conclusions with relevance for economic geography and the wider social sciences.

Firstly, it is clear that a wide array of increasingly complex catchment analysis models have been devised that, in principle, allow for a well-structured process of evaluation of development opportunities. However, this paper has underlined the importance of context within knowledge management and decision-making. In doing so, the need to

differentiate between knowledge that is ‘possessed’ and knowledge ‘in practice’ becomes unavoidable (cf. Amin and Cohendet, 2004). While we find that there is a robust focus on data analysis to support decision-making, this is strengthened through the use of managerial judgement based on experience, discussion and tacit knowledge. Further, at times, robust data is simply not available to underpin decisions. This means that analysts have to rely on intuition: a dependence well known within cognitive and managerial psychology and which is based on ‘intense, focused, and deliberate practice, in a specific domain’ (Sadler-Smith, 2008, 495). Consequently, though it may be desirable for management to reduce the analyst’s job to a system of directed processes and routines, this may simply not be possible given the requirement to leverage a broader range of tacit knowledges that come from experience in situated contexts and which therefore presuppose more flexible work practices.

Second, this research has developed our understanding of the role of communities in decision-making. Our findings concur with Amin and Cohendet’s (2004, 12) suggestion that a ‘common anthropology of socialization, social interaction, interest alignment, and community maintenance’ can act ‘as a vital medium for learning’. Our research underlines the benefits that a team approach can bring to ensure that tacit knowledge can be appropriately leveraged and interrogated at the level of a departmental community of practice, and subsequently justified in more strategic decision-making within a senior management board level community of practice. This mirrors emerging work within economic geography research at the level of the firm. As Pinch et al. (2010, 386) recently noted in their study of design agencies, often:

‘know-how was not formally codified but gained by learning-by-doing and close working between junior designers with more experienced colleagues. Experience on past and similar projects was not codified but stored in designers’ memories, to be used as a key resource. On the other hand, however, designers appeared to be highly aware of the need to follow certain practices during the course of projects and highly conscious of the way in which their practices generated specific insights’.

Third, our research provides evidence to exemplify Roberts’ (2006) concern regarding power relations and degrees of trust between communities and senior actors within the organisational hierarchy of the firm. Such distortions can lead to critical knowledge failing to reach key decision makers, thereby affecting decision accuracy. Clearly not

all retailers are as receptive to the expert knowledge and analysis that specialist communities produce. At a basic level, location planning managers (and the firm's analysts) make efforts to gain legitimization across the firm to ensure that their informed perspectives concerning store developments are heard (cf. Beaverstock et al., 2010). More specifically, however, there is a need for such communities to champion key communicators within the group to represent their views and prevent marginalisation.

Our research thereby demonstrates the role of intra-firm processes of “argumentation” in decision-making (cf. Palmer and O’Kane, 2007). Different hierarchies of the firm have different priorities and benchmarks for the approval or refusal of development opportunities. Power inequalities are therefore, to some degree, present across all of the communities identified: within the *location department Community of Practice (CoP)* itself between analysts and managers, as well as between the representatives of different departments within the *portfolio organisation CoP*. However, these power relations are most pronounced where senior managers work with middle managers in the *portfolio decision-making CoP*, given the inequality in status owing to differential positions within the corporate hierarchy (see Yeung, 2005). While specific agents within communities of practice at a senior decision-making level may have their own agendas, it is important not to see such communities as wholly separate from those at the analytical level of site analysis but, instead, as overlapping with it (cf. Kwon et al., 2009). Indeed, senior location analysts were often responsible for “presenting” their analysis at Board level and were granted some status and currency within the community as a result, even if their real ability to influence strategic decision-making may be more limited.

Fourth, we found that the various communities of practice with which the location planning department interact often extend across (and sometimes beyond) the firm (see Table 4). While theoretically this can cause problems in accurately framing the boundaries of such communities (cf. Roberts, 2006), such practice can prove beneficial in refreshing stocks of knowledge that lie beyond the firm – arguably preventing an inward looking culture and associated problems of lock-in. Such ‘permeable boundaries’ within location planning CoPs therefore see analysts acquiring relevant information from elsewhere within the firm - such as marketing

departments - but also attending external roundtables and seminars run by universities or commercial data providers in order to understand approaches, techniques and data-sets that could gain relevance and traction within their own work environments.

Finally, it is evident that the relatively specialised nature of the retail location analysis function, and the churn associated with employment within it, means that many analysts have experience across a number of retailers. This, in turn, lends itself to the development of inter-firm communities of practice that are maintained through personal networks or formalised through industry associations by means of regular meetings, conferences and seminars. This serves to reinforce and update the stocks of 'component' knowledge concerned with location analysis within individual retail firms (cf. Pinch et al., 2003; Jenkins and Tallman, 2010) as actors move beyond the firm's local 'buzz' to access 'pipelines' (cf. Bathelt et al., 2004). However, it is also noted that some retailers are keen to 'protect' their location planning knowledge, which they regard as a hard-won sunk cost and of potentially significant value to competitors, and restrict analyst participation in such societies. This may have the effect of limiting some analysts' exposure to external knowledge, associated potential job opportunities and career development.

Appendix I: Methodological note

This research is based on a three stage data collection process. First, we conducted an online survey of named location planning/property managers from 102 individual retailers which produced 43% usable responses. While this is not the focus of research for this paper and is reported elsewhere (Reynolds and Wood, 2010), it served to contextualise many of the issues and aided us in devising an interview protocol. Second, our main data collection employed semi-structured interviews with approximately 30 analysts and managers responsible for location planning across a range of retailers and related consultancies. These respondents were mainly drawn from the survey respondents but also from the membership list of an industry support body focused on location analysis. The selection of retailers provided a sample of operators across different retailer sizes and sectors (ie. food, department stores, DIY, electrical, discount, sports, optical, clothing, general merchandise and charity). While we attempted to survey as wide a cross section of retailer as possible, given that typically larger retailers tend to operate a specialist location planning department, our sample is inevitably skewed towards retailers with more extensive store networks. Often respondents had extensive experience not only at their current employer but also location planning history across a range of other retailers and consultancies earlier in their career. All respondents were assured of complete confidentiality both of their personal identity and their company. The data from our interviews was triangulated by our own professional experience in site forecasting, the retail press,

but also continued attendance and networking at meetings of a location analysis industry support group.

The interview protocol was semi-structured and loosely based around a number of themes related to portfolio development and management. They were held at the head offices of the retailers and location planning consultancies and lasted for between 45-90 minutes. Typically interviews were audio recorded and subsequently transcribed. They were then subject to analysis and coding in line with established qualitative research practice (Strauss and Corbin 1990).

Having established some provisional conclusions, our third and final stage of data collection consisted of a focus group with 10 location planning analysts in April 2010. None of these participants had featured in the previous stage of the research. The focus group was held at an Executive Education residential course focused on location planning. This session was held to determine whether our provisional conclusions derived from interviews fairly represented the complexity of the issues involved. This was an important part of the research process as we could actively probe individuals' understanding which promoted group discussion, comparison of perspectives and deep reflection. In order to ensure an informal atmosphere and to provide assurances of confidentiality, the sessions were not recorded though one of the research team took notes, while another facilitated the focus group. Overall therefore our research approach aimed to reproduce the qualitative rigour commonly referred to as 'close dialogue' with the key corporate actors (Clark, 1998).

Tables and Figures

Table 1: Different actors in a typical large retailer's location planning decision-making process

Actor	Focus and duties
Senior management within retailer	<ul style="list-style-type: none"> ⇒ To consider the information provided by location planning department and agree/reject development opportunities. ⇒ Sets "bid ceiling" in the event of land auction.
Location planning managers	<ul style="list-style-type: none"> ⇒ Reviews sales forecast with analyst and subsequent recommendation. ⇒ Focus on the wider strategic perspective on the development. ⇒ Enhanced experience in forecasting likely to have an effect. ⇒ Likely to present the forecast to senior management.
Location planning analysts	<ul style="list-style-type: none"> ⇒ Produces a sales forecast and a draft recommendation to the business via modelling and visiting the sites.
Model builders/analysts	<ul style="list-style-type: none"> ⇒ Likely located within the location planning department, analysts build and maintain tools to assist in the site evaluation process. ⇒ Unlikely to have direct contact with forecasting sites on a day-to-day basis.
Property department managers	<ul style="list-style-type: none"> ⇒ Responsible for bringing sites to location planning department's attention. ⇒ Likely to be incentivised by store development.
Finance analysts	<ul style="list-style-type: none"> ⇒ Receives estimated sales figures, construction, land acquisition costs etc. ⇒ Produces an estimated return on investment from development based on all of these variables to inform senior management decision-making

Source: Current study

NB: within some location planning departments, the model builders also act as the analysts who execute the sales forecasts.

Table 2: A generic hierarchy of analysis and decision-making in portfolio expansion at a retailer with an established location planning function

Procedure	Details	Actors
Store strategy development	Produce plan of optimum geography of store estate across space	Location planning department
Search for store/expansion/replacement sites	Identify potential locations for portfolio expansion	Property department
Appraisal of sites	Forecast return on investment of site Provide recommendation regarding progression (or not)	Location planning department
Decision making	Review sales forecast, likely return on investment and location planning's recommendation Place in context of wider strategic thinking Act on decision (site purchase, rental, extension, acquisition, closure, re-fascia or rejection)	Senior management of retailer Location planning department Property department Finance department
Store opening preparation	Analyse and plan for local marketing Identify marketing strategy and spatial extent of marketing coverage Identify optimum store layout and ranging for catchment	Location planning department Marketing department Space and range planning department
Post-opening assessment	Analyse trade distribution versus forecast Conduct customer research in-store to identify any operational and/or product/marketing related issues Identify solutions and learnings from analysis and implement	Location planning department Property department Marketing department Store operations department Space and range planning department

Source: Current study

Table 3: Knowledge bases: a typology

Analytical	Synthetic	Symbolic
Know why; developing new knowledge about natural systems by applying scientific laws	Know how; applying or combining existing knowledge	Creating meaning, aesthetic qualities; affect; know who critical
Scientific knowledge, models, deductive	Problem-solving, inductive, custom production	Creative process
Collaboration within and between research units	Interactive learning with customers, suppliers	Learning-by-doing, in studio; project teams
Strong codified knowledge content; highly abstract, universal	Partially codified knowledge, strong tacitness more context-specific	Strong semiotic knowledge content; some forms highly context-specific
Meaning relatively constant by location	Meaning varies substantially by location	Meaning highly variable by location
Drug development	Location planning departments	Advertising

Source: modified from Gertler, 2008

Table 4: Location planning department Community of Practice (CoP) and its extended membership of other related CoPs

Community of Practice (CoP)	Purpose	Actors	Boundary Spanning	Characteristics
Location planning department CoP	Develop portfolio strategy. Produce accurate sales forecast and recommendations.	Location planning analysts Location planning managers	Intra-departmental	<i>Focus on technical technique development and training in focusing and assessment.</i> <i>Discussion of results given community's wider experience and tacit knowledge.</i> <i>Share best practice and key learnings</i> <i>Develop forecasting techniques and models</i>
Portfolio organisation CoP	Determine nature and shape of proposed development. Organise documentation for Board level decision-making	Location planners; Finance execs; Space planners; Property executives	Inter-departmental	<i>Meetings over a lengthy time period as development schemes are discussed and forecast numbers produced.</i> <i>May be numerous iterations of a scheme as adjacent land becomes available or planning regulations influence proposed outcomes.</i> <i>Potential for disagreement and threats to LP department's turf.</i>
Portfolio decision-making CoP @ Board level	Determine strategy for development & authorise expenditure. Authorised to purchase land and initiate new development	Location planning manager Management from other departments (e.g. Property, Marketing, Store/Space Planning); Senior Management.	Inter-departmental	<i>Presentation and interrogation of location planning assessment and forecasts.</i> <i>Likely scrutiny by Senior Management.</i> <i>Power relations centred within senior management.</i>
Location planning knowledge building and networking CoP	Knowledge gathering, networking and interacting.	Location planning analysts and consultants from multiple firms	Inter-firm	<i>Meetings at conferences or seminars often facilitated by industry bodies such as Society of Location Analysis (SLA); Demographics Users Group (DUG).</i> <i>Discussions of new techniques or latest learnings with common problems discussed.</i> <i>Scope for unified action if necessary (e.g. in representations to Government).</i>
Marketing strategy CoP	To determine the marketing strategy for a new/ extended/refurbished/ replaced store	Location planning analysts Marketing executives	Inter-departmental	<i>Location planning executives use knowledge of store catchment and its geodemographics to advise on marketing strategy.</i>

Source: Current study

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