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**Dynamic Client Portfolios as Sources of Ambidexterity:
Exploration and Exploitation Within and Across Client Relationships**

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This paper explains how dynamic client portfolios can be a source of ambidexterity (i.e. exploration and exploitation) for knowledge intensive firms (KIFs). Drawing from a unique qualitative dataset of firms in the global reinsurance market, we show how different types of client relationships underpin a dynamic client portfolio and become a source of ambidexterity for a KIF. We develop a process model to show how KIFs attain knowledge by segmenting their client portfolios, use that knowledge to explore and exploit within and across their client relationships, and dynamically adjust their client portfolios over time. Our study contributes to the literature on external sources of ambidexterity and dynamic management of client knowledge within KIFs.

Keywords: Ambidexterity, client relationship management; knowledge intensive firms, strategic business relationship, exploration and exploitation

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Introduction

Since March's (1991) seminal work, the concept of organizational ambidexterity – the concurrent pursuit of exploitation, “the development of things already known”, and exploration, the development of new knowledge (Levinthal and March, 1993, p. 105; Lavie et al., 2010) – has captured the imagination of organizational scholars. Ambidexterity is considered critical for organizational success and yet also extremely difficult to achieve within a single organization (Andriopoulos and Lewis, 2010; He and Wong, 2004; Raisch and Birkinshaw, 2008). In response to this recognized difficulty in achieving ambidexterity internally, interest in the role of external relationships in enabling ambidexterity has recently burgeoned, primarily with a focus on strategic alliances (e.g. Koza and Lewin, 1998; Lavie and Rosenkopf, 2006; Raisch and Birkinshaw, 2008; Rothaermel and Deeds, 2004). Yet, we still have much to learn about other external sources of ambidexterity, foremost among them client relationships. Initial studies highlight clients as sources of knowledge (Im and Rai, 2008), but tell us little about how knowledge is attained and used within and across client relationships to enable ambidexterity over time.

The literature on knowledge-intensive firms (KIFs), by contrast, has developed some understanding of how firms can use client relationships for their own knowledge development (Bettencourt et al., 2002; Fosstenløykken et al., 2003; Skjølsvik et al. 2007).¹ Such KIFs critically rely on their ability to create, preserve and replenish a stock of valuable knowledge that they apply in their knowledge-based services (Alvesson, 1995; Moore and Birkinshaw, 1998; Starbuck, 1992; Von Nordenflycht, 2010). KIFs thus offer a useful context in which to study the potential of client relationships to fuel exploration and exploitation. Client knowledge can be a source of both exploration and exploitation within KIFs (He and Wong, 2005; Levinthal and March, 1993; Lavie et al., 2010); either refining existing knowledge, such as improving an existing solution, or

¹ To maintain the authenticity of our data we use the term ‘clients’, which was consistently used by the KIF managers we studied. This is consistent with other KIF studies (Alvesson, 2004; Skjølsvik et al. 2007), but we recognise that not all KIFs have clients, some have customers.

enabling the pursuit of new knowledge, such as new markets or products that represent a new skill or market expertise (Lavie et al., 2010). We draw on illuminating concepts from this literature and apply them to an extensive qualitative study covering 22 reinsurance KIFs.

By explaining client portfolios as a dynamic source of ambidexterity, we contribute to both the literatures on ambidexterity and KIFs. Specifically, we develop four empirically grounded relationship types, labelled *Nurturing*, *Investigating*, *Holding* and *Watching*, which collectively form a client portfolio that enables ambidexterity for a KIF. We then extend this typology into a process framework of how KIFs attain knowledge through their client portfolio, use it to engage in exploitation or exploration, and feed back the knowledge gained to evolve their client relationships over time. This framework makes three theoretical contributions, primarily to the ambidexterity literature, but also to existing knowledge on KIFs. First, contrary to existing approaches in the ambidexterity and KIF literatures, our framework highlights interactions between exploration and exploitation within single relationships (in-client), as well as across client relationships within the client portfolio (across-client). This approach reflects how the knowledge value of different relationships – what still needs to be learned, from whom, and for what purpose – changes over time according to the basis of existing knowledge in the firm. Our framework encapsulates this dynamic client portfolio. Second, drawing on and extending the KIF literature, our framework accentuates the role of clients, rather than alliance partners, as sources of ambidexterity (e.g. Koza and Lewin, 1998; Rothaermel and Deeds, 2004). This broadens the potential to understand the role of a more diverse set of external relationships, and connects ambidexterity to the conduct of everyday business, rather than separate strategic initiatives. Third, in contrast to the current focus on the performance benefits of external sources of ambidexterity (Im and Rai, 2008; Morgan and Berthon, 2008), our model centres on *how* these benefits are attained. Specifically, we unpack the process and the activities by which KIFs attain knowledge from clients, engage in exploration and exploitation within and across client relationships in their portfolio, and do so dynamically over time.

The paper is structured as follows. First, we review the ambidexterity and KIF literatures on exploitation and exploration in client relationships. Second, we outline the reinsurance research context and our methodology. Third, we present our findings. Fourth, we conceptualize these findings within a dynamic process framework of client relationships. The paper concludes by addressing the implications of our findings and providing a framework for managers of large client portfolios.

Theoretical background

The organizational ambidexterity challenge

The challenge of achieving ambidexterity lies in the balance of exploration and exploitation activities, which are fundamentally at odds in terms of their time horizon, incentivization and operation (March, 1991). The broad search that is typical of exploration sacrifices short-term refinements and returns in search of flexibility and future value (Siggelkow and Levinthal, 2003; Smith and Tushman, 2005; Tushman and O'Reilly, 1996). Conversely, exploitation pursues immediate stability and reliability, albeit at risk of conservatism and future obsolescence (Holmqvist, 2004; Leonard-Barton, 1992; Lewin et al., 1999). Hence, organizations face a dilemma. Incentivizing both sets of behaviours in equal measure is near impossible, as their outcomes differ in terms of their “timing, and their distribution within and beyond the organization”, yet both are vital to organizational performance (March, 1991, p. 71). Given these motivational and operational inconsistencies, investment in one typically drives out the other (Benner and Tushman, 2002; Levinthal and March, 1993). Thus, despite wide agreement “on the need for balance, there is considerably less clarity on how this balance can be achieved” (Gupta et al., 2006, p. 697; see also Andriopoulos and Lewis, 2009; Lavie and Rosenkopf, 2006; O'Reilly and Tushman, 2011). Recognizing the challenges of achieving ambidexterity internally, scholars have developed alternative approaches which involve external partners as enabling of ambidexterity (Ferrary, 2011; Katila and Ahuja, 2002; Raisch and Birkinshaw, 2008).

External relationships as a source of ambidexterity

Recent studies suggest that tensions between exploration and exploitation, as contradictory modes of knowledge, can be mitigated through the use of external relationships (Kauppila, 2010; Lavie et al., 2010; Nosella et al., 2012; Simsek, 2009). Strategic alliances in particular have attracted the majority of attention (Koza and Lewin, 1998; Holmqvist, 2004; Lavie and Rosenkopf, 2006; Tiwana, 2008). In this stream of research, numerous authors clearly differentiate between “exploration” and “exploitation” relationships, which separately fulfil the different learning needs – such as “research” (exploration alliances) and “development” (exploitation alliances) – of an organization (e.g. Beckman et al., 2004; Ferrary, 2011; Grant and Baden-Fuller, 2004; Kauppila, 2010; Lin et al., 2007; Rothaermel and Deeds, 2004; Vassolo et al., 2004). Likewise, many discussions of client relationships sharply delineate the pursuit of new knowledge for and with emerging clients from the pursuit of knowledge for and with existing clients (Cegarra-Navarro and Dewhurst, 2007; O’Reilly and Tushman, 2008), considering orientation towards emerging clients as a form of “generative learning” or exploration (Morgan and Berthon, 2008). Hence, it is only at the aggregate level that clusters of independent exploration and exploitation relationships collectively create the balance and superior performance that is typical of ambidexterity (Lavie and Rosenkopf, 2006; Lin et al., 2007; Morgan and Berthon, 2008; Rothaermel and Deeds, 2004; Simsek, 2009). However, a few authors offer a different perspective, suggesting that differentiating external relationships by their purpose may be inappropriate, because each one can be a source of ambidexterity in its own right, fulfilling functions of both exploration and exploitation simultaneously (Holmqvist, 2004; Im and Rai, 2008; Koza and Lewin, 2000).

Despite the growing interest in how ambidexterity can be enabled through external relationships, three issues have been under-explored. First, current work largely neglects interactions *across* a client portfolio. That is, how knowledge gained from one client can be used to explore or exploit across client relationships in the portfolio, or how the value of knowledge

attained within a client relationship can shift with changes to the knowledge-base, or priorities, of the firm. This is an important omission as research on collaborative innovation (Dell'Era and Verganti, 2010) suggests that the value of knowledge attained in any one collaboration is enhanced by its integration with knowledge generated in another. Therefore, we argue for a dynamic portfolio perspective on ambidexterity that acknowledges the sources of knowledge and how it is explored and exploited, both within client relationships and across the client portfolio. This complements existing perspectives by providing a more complete and fluid picture of knowledge attainment and utilization in relationship portfolios. It also acknowledges shifts in relationship purposes based on the knowledge that they provide relative to an organization's changing client portfolio. These insights elaborate upon current understandings that exploration and exploitation are relative to an organization's existing knowledge base and - through continuous learning and growing familiarity - may morph into each other (Cohen and Levinthal, 1990; Lavie et al., 2010). In the case of client relationships, such morphing can occur due to shifts in the purposes and management of client relationships, as well as the resultant dynamism in client portfolios.

Second, and relatedly, while alliance partners have received attention as potential sources of ambidexterity, clients have been comparatively neglected. Clients are typically cast as silent *beneficiaries* of ambidexterity and, with the exception of Im and Rai (2008), very few studies consider them as *sources* or co-producers. This is striking, as ambidexterity is considered a client-focused capability, focused on meeting the needs of clients now and in the future (Cegarra-Navarro and Dewhurst, 2007; Morgan and Berthon, 2008). This is a significant omission insofar as alliance and client relationship portfolios differ, both in size and in the sources and destinations of knowledge. Resultant differences in ambidexterity dynamics in client portfolios therefore merit specific investigation.

Third, irrespective of relationship type, existing studies focus on the positive performance effects of external relationships as a source of ambidexterity, to the neglect of the practices and processes that enable this (Gupta et al., 2006; Kauppila, 2010). For instance, Im and Rai (2008)

showed *that* simultaneous sharing of both explorative and exploitative knowledge led to better relationship performance, but not *how*. Other studies use macro-level industry data or large-scale surveys to identify causal relationships between ambidexterity and performance (Beckman et al., 2004; Cegarra-Navarro and Dewhurst, 2007; He and Wong, 2004; Rothaermel and Deeds, 2004), which inevitably fail to shed light on the processes of how it is attained. Consequently, there is still much to learn about the processes and practices through which client portfolios become a source of ambidexterity.

Notably, the literature on KIFs (Alvesson, 1995; Starbuck, 1992) has traditionally paid more attention to the practicalities of how knowledge is enabled through client relationships (Fosstenlökken et al., 2003; Skjolsvik et al., 2007) and how that knowledge is then managed and used (Hansen et al. 1999; Werr and Stjernberg, 2003). Translating some of their illuminating concepts into the ambidexterity literature promises to fruitfully address current gaps in our understanding of clients as sources of ambidexterity, the dynamism of client portfolios and the practicalities of exploration and exploitation.

Knowledge-intensive firms: Attaining and using knowledge from clients

KIFs are a distinctive class of organisations that trade on the expertise and judgement of their staff (Alvesson, 1995; Hansen et al., 1999; Løwendahl et al., 2001; Starbuck, 1992; Winch and Schneider, 1993). They are defined as organizations that “offer to the market the use of fairly sophisticated knowledge or knowledge-based products” (Alvesson, 2004, p.17), such as an assessment of risk and associated financial solutions (or products) in the reinsurance industry.

The highly complex nature of knowledge work undertaken by KIFs (Maister, 1993; McKenna, 2006; Morris and Empson, 1998) is informative in the context of our study of client portfolios as sources of ambidexterity. First, fluidity between different modes of exploitation and exploration is central to KIFs’ ability to apply their knowledge-based services or products. The incremental learning mode that the ambidexterity literature identifies as exploitation is important

for the constant refinement and application of existing knowledge to solutions for clients. However, KIFs will all encounter, to varying degrees and at different times depending on their context, novel client problems and/or the entrepreneurial spirit of knowledge workers (Anand et al., 2007), which take KIFs into an explorative mode of “assimilating new knowledge from around the world, building new knowledge” (Moore and Birkinshaw, 1998, p. 81). As knowledge-based solutions vary in the degree to which they require the refinement of existing knowledge, or the development of new knowledge, KIFs display a fluid approach to exploration and exploitation (Heusinkveld and Benders, 2005, 2012; Taylor and Greve, 2006), which is informative for studies of ambidexterity. Second, the need to tailor knowledge to client demands is often characteristic of what many KIFs do. This can turn clients from passive consumers into active co-producers of solutions (Bettencourt et al., 2002; Fosstenlökken et al., 2003; Moore and Birkinshaw, 1998; Ofek and Sarvary, 2001; Skjolsvik et al., 2007). Hence, the nature of their work often directs the attention of KIFs to clients, rather than only alliance partners, as sources of ambidexterity. Accordingly, the literature has paid significant attention to selecting clients for knowledge value and using that knowledge within the KIF, including leveraging it across client assignments.

Regarding client selection, the KIF literature has long emphasized that, given the necessity for knowledge co-production, profitability is not the only selection criterion. Clients who promise good profitability may not be “right from a knowledge-development point of view” (Fosstenlökken et al., 2003, p. 869; see also Bettencourt et al., 2002). Skjolsvik and colleagues, for example, recommend that KIFs should seek a mix of clients, combining profitable routine assignments with “a high proportion of novel and customized tasks”, which would maximise opportunities for knowledge attainment in order to fuel both exploration and exploitation (2007, p.119; see also Sarvary, 1999). However, while the importance of attaining knowledge through clients has been acknowledged, the process by which it is attained and utilized within a client portfolio, and the detailed characteristics and interrelations of those portfolios, has only begun to

be explored. Consequently, while client selection can foster opportunities for knowledge generation (Fosstenløyken et al., 2003), there is a scarcity of research showing how knowledge is attained within a client relationship and then used, whether through exploration or exploitation, not only within that client relationship, but across the client portfolio, and how different parts of the portfolio dynamically interrelate over time. Yet this capacity to make the most of knowledge rather than restricting it to within-client application is, arguably, where the value of knowledge management lies (Sarvary, 1999).

While the literature on KIFs provides helpful insights to inform broader discussions of ambidexterity, it also has shortcomings, two of which are of particular interest here. First, by focussing on professional service firms as a relatively narrow subset of KIFs (Haas and Hansen, 2007; Hansen and Haas, 2001; Hansen et al., 1999; Morris, 2001; Morris and Empson, 1998; Werr and Stjernberg, 2003) existing studies neglect important differences between types of KIFs (Malhotra and Morris, 2009; Von Nordenflycht, 2010) and the client management challenges they face. In particular, other KIFs may operate with larger, more dispersed and more diverse client portfolios than the traditional professional service firm. Such portfolios offer greater diversity for knowledge attainment (Sarvary, 1999), but also pose greater coordination and relationship management challenges. For instance, attaining knowledge within a large client portfolio may present unique resource scarcity challenges because the maintenance and management of numerous external client relationships is costly and poses greater potential for political wrangling among knowledge workers competing for resources (Starbuck, 1992). In effect, neither the ambidexterity nor the KIF literature provides a good understanding of how to efficiently target and manage large, diversified client portfolios in ways that simultaneously maximise profitability and knowledge. Specifically, we lack an approach to clients as a source of ambidexterity which focuses on segmenting the client pool in ways that inform KIFs' choices of where to selectively invest precious time and resources in relationship management.

Second, while “leveraging” client knowledge across large numbers of diverse client relationships has been recognised as an important ingredient for developing and sustaining ambidexterity (e.g. Fosstenløyken et al., 2003; Skjoldsvik et al., 2007), existing research on KIFs provides little insight into how this is achieved in practice. As in treatments of inter-organizational ambidexterity, client relationships are usually considered in isolation rather than as part of a broader portfolio, hence neglecting any interactions between them. Furthermore, while individual stages of knowledge attaining, disseminating and using knowledge have received some attention, this has typically remained disconnected so that we lack process understandings of how portfolio knowledge is attained and used dynamically over time.

Thus, our study of client relationship management in the reinsurance industry draws on the KIF literature to address some important shortcomings in discussions of inter-organizational ambidexterity. In doing so, we also address some shortcomings in the KIF literature. We ask: *How are dynamic client portfolios a source of ambidexterity for KIFs?* We contribute to both literatures by exploring this question in a process-orientated way, looking at how knowledge is attained within a client portfolio, used to explore and exploit within and across client relationships, and enabled through the dynamic management of the client portfolio.

Research Methods

Research context: The global reinsurance industry

We draw on a qualitative programme of research into the global reinsurance industry. This financial services sector provides reinsurance solutions for insurance companies (clients) seeking protection from large insurance claims arising from catastrophic events, such as floods, hurricanes or acts of terrorism. The reinsurance industry presents an ideal context to investigate how large client portfolios are managed as a source of ambidexterity for KIFs. First, reinsurers’ work is highly knowledge-intensive, as they deploy their personal market knowledge, business acumen and statistical modelling skills to assess the deals they are underwriting. Second,

reinsurers frequently work closely with clients to undertake in-depth analysis and develop knowledge-intensive solutions. Knowledge about clients and territories, attained within these relationships, is highly sought after because reinsurers have to allocate significant amounts of capital amidst high uncertainty. Third, reinsurance firms work with very large numbers of clients and frequently tailor reinsurance solutions – called financial “products” – of varying degrees of complexity. However, there is great variation in the degree of customization a reinsurer might offer, ranging from novel customized solutions for some clients to “renewals” of existing product solutions for others. It is in the development and provision of these varied financial solutions that reinsurers bring to bear their expertise.

Our study speaks to KIFs with large client or customer portfolios, as each individual manager appraises up to 400 deals from a broad variety of clients each year. Hence, their time to interact with these clients to access market intelligence, select clients, build goodwill, generate business and develop solutions becomes a scarce resource. Reinsurance firms, and their numerous client interactions, therefore present an opportunity to study first-hand how KIFs manage the coordination and relationship management challenges associated with large client pools, and the opportunities for ambidexterity they provide (Sarvary, 1999).

Data collection

This paper draws from a data set gathered from a wider programme of research into the global reinsurance industry, covering the main reinsurance markets of Lloyd’s of London, Bermuda and Continental Europe, and some additional data from the Asia-Pacific region. We accessed 22 reinsurance firms ranging from the largest reinsurers in the world, such as those domiciled in Continental Europe with client revenues upwards of US\$10 billion dollars, to smaller firms, such as European start-ups or smaller Lloyd’s syndicates with client revenues of as little as US\$200 million. These firms varied in terms of their geographical reach, the range of solutions they provided, and their strategic intent. However, consistent with our theoretical sampling, they all

had large client portfolios and delivered a range of solutions from the highly novel or customized to the more standard “renewal” business. Moreover, we found these organisations select and manage their client portfolios in very similar ways; leading us to consider our dataset as a single “industry” case, as we explain in the analytic section below.

Over three years from 2009-2012 we conducted 382 interviews with reinsurers as well as a number of reinsurance brokers, each lasting on average 60 minutes, all audio recorded and fully transcribed. These interviews included, amongst other things, discussions about client selection, client interaction strategies and knowledge attainment through client relationships. In addition, we studied the day-to-day practices of reinsurance managers. We observed them for sustained periods in their offices, on trading floors, in client meetings, during internal meetings and risk reviews, at corporate events and during industry conferences. In total, we collected detailed ethnographic fieldnotes from 935 sessions (full or half days) of observing reinsurers performing these everyday practices. Most observations were audio-recorded and detailed notes were typed up either in real-time or every evening. The audio-recordings allowed us to re-visit crucial events during analysis and check the reliability of our emerging interpretations (Lincoln and Guba, 1985).

All data was loaded in NVivo (a qualitative data software tool) for analysis, enabling the searching, indexing and selection of data for more focused coding around particular issues. The data for this paper is drawn from this wider data set. We searched NVivo for data pertaining to client interactions and relationships, including all observations of client meetings, data coded to client interactions, and passages of data that contained terms in close proximity to the word “client”, such as “relationship”, “meeting”, “visit”, “data”, “knowledge”, “management”, and “system”. Passages deemed relevant by the authors, three of whom had been involved in collecting the data, were expanded to include surrounding passages to ensure we had captured relevant context. This enabled us to extract a focused data set from 175 interviews and 261 observational fieldnotes which we analyzed.

Analytic approach

As is typical of exploratory process questions (Langley, 1999), our analysis moved through several phases. First, while still in the field, we noticed a great deal of variation in activities for managing client relationships, which was the initial inspiration for this paper. Together, we began in vivo theorising about client management practices as a way of attaining knowledge, which led us to develop more focused fieldnotes on what we saw reinsurers doing, such as entering client knowledge into databases, or using client knowledge to assess deals.

Second, as our research question emerged, we began coding our focused data set, highlighting client interactions and the knowledge flows stemming from such interactions. Initially we used the knowledge management process as a broad organizing framework, focussing on activities associated with knowledge attainment and utilization (Grover and Davenport, 2001; Nonaka and Teece, 2001; von Krogh et al., 2001). This helped us develop a set of focused questions to interrogate the data set.

Specifically, we asked: *where does client knowledge come from?* Our coded data showed that knowledge from clients was attained within different types of interaction activities that reinsurers classified as “conference meetings”, “road-shows”, “site visits” and “social events”, and that the use of these activities varied. For example, some activities, such as conferences, were common across the client portfolio, whereas more resource-intensive activities, such as site visits, were reserved for specific clients. We noticed especially how reinsurers talked about the different “knowledge value” and “economic value” of clients. This prompted us to investigate what kind of knowledge was being attained through these different types of interactions, whether it enabled reinsurers to explore or exploit. Additionally, we found that reinsurers made four main types of decisions on deals– no deal, small deals, mid-sized and large deals – and that these deal decisions were underpinned by economic evaluations, but also by the knowledge value of doing a deal with a specific client. We grew confident, then, that considerations of economic and knowledge value

were key determinants of both how reinsurers segmented their client portfolios and the activities they used to engage with and attain knowledge within client relationships, and that this segmentation was key to their decisions on deals with these clients (See Appendix 1).

We then queried: *what do reinsurers do to attain knowledge value through clients?* Through our coding it became apparent that, consistent with Levinthal and March's (1993) definition, client knowledge was used for both exploitation and exploration. For example, when managers talked about using knowledge to "clean up deals" or "improve existing product solutions" we coded this as exploitation. When managers talked about using knowledge for "completely new pricing solutions" or "developing novel products" we coded this as exploration. As we looked closely at the exploitation and exploration patterns, two dynamics emerged. First, knowledge attained within a particular client relationship enabled reinsurance managers to explore and exploit within that same client relationship. Second, knowledge accessed with a particular client relationship was also used to fuel either exploration or exploitation across relationships within the client portfolio. In essence, we were struck by the entangled nature of exploitation and exploration when considered at the level of the client portfolio. For example, when knowledge attained within one client relationship was applied to refine solutions with other clients (exploitation-across clients) and build novel solutions (e.g. "terrorism product") that were applicable to different clients (exploration-across clients) (see Appendix 2).

Third, we began to move from our initial categories which drew heavily on the language of our informants (van Maanen, 1988) to theorizing about the findings at a higher level of abstraction. In particular, we generated concepts and labels (Gioia et al., 2012; Pratt, 2009) for different types of client relationship, such as "Holding", "Nurturing", "Investigating" and "Watching" relationships; whereby we explicated links in our data between the client "value" dimensions (knowledge and economic value) and the various engagement strategies (size of deal and forms of interaction). As we surveyed our themes, it became apparent that "high-knowledge potential" was not only associated with an ability to explore and exploit knowledge gained within

and for a single client relationship (in-client), but also the capacity to use knowledge across the wider portfolio (across-client). As we interrogated our data and the interrelations between our themes it became apparent that the relationship between knowledge value of clients and client management was a dynamic, continuously evolving process (see Appendix C). This final layer of analysis is further theorized in the discussion with a framework that illustrates how KIFs dynamically attain and use knowledge within and across their portfolio of client relationships to enable ambidexterity.

Findings: Client portfolios as a source of ambidexterity

Our findings show how client portfolios become a source of ambidexterity for KIFs. First, we describe how reinsurance firms attain knowledge from relationships within different segments of their client portfolios, which we label: Nurturing, Maintaining, Investigating and Watching, each of which is associated with a particular assessment of value and engagement response. Second, we discuss how reinsurance firms used the knowledge attained to explore and exploit both *within* client relationships and *across* client relationships. Finally, we outline how client portfolios are managed dynamically to sustain ambidexterity over time (See Table 1).

< INSERT TABLE 1 ABOUT HERE >

A. Segmenting client interactions

The reinsurance firms in our study had large and diverse client portfolios with clients that varied in size, evolution, market presence and product needs. Connections with these clients encompassed everything from longstanding to embryonic relationships. Efficiently managing such large client portfolios required reinsurers to make evaluations about where to invest precious time and resources. In particular, we found reinsurers to interact with clients in four main ways, ordered from least to most resource intensive: *conference meetings* (where they can meet multiple clients for short meetings at the same place at an industry event), *road-show meetings* (where the client visits their premises), *site visits* (where they visit their client's premises) and *social events* (where they entertain their clients, sometimes on a very lavish scale). Reinsurers also had

the choice whether or not to enter into a financial transaction with a client ranging from decisions to engage in: *no deal, small deal, moderate deal or large deal*. They varied this engagement depending on the “value” of the client, ranging from brief conference meetings, but no actual deal, with some clients to all types of interactions, including large-scale social events, and large deals with their most valuable clients.

Our findings suggest that reinsurance firms segment their client portfolios according to the economic value and knowledge value of their clients. Unsurprisingly, concerns about economic returns were central in determining how reinsurers categorised and managed client relationships. However, reinsurers were also obviously aware that their client interactions were a critical source of knowledge. Judgements about the knowledge value of particular clients emerged as central in determining how reinsurers managed those particular relationships. While economic value and knowledge value were inevitably entangled in practice, our analysis shows that both considerations were at play in segmenting client portfolios into four relationship types: *Watching, Investigating, Nurturing* and *Holding* relationships. We now describe each relationship type, how it was managed and the different knowledge flows it enabled (See Appendix A).

Watching relationships. Watching relationships are lower engagement relationships involving limited interactions (e.g. conference meetings) and small, or no, deals. They were used when clients were perceived to have low or uncertain economic *and* knowledge value today, but with some prospect of potential future value. For instance, reinsurers recognized that their appetite for a geographic market or product might change. Hence, Watching relationships were maintained because of the potential for future knowledge or economic gains. In our study, clients in emerging markets often fell into this category. As a manager described:

In emerging markets we're the prospectors [...] I don't see many prospects currently in the short-to mid-term [...] For example in China we'll go out, do the best you can but this is the box, this is the sandbox you're playing in. It's a taster (Interview).

While there was low potential for exploitation, with minimal existing knowledge to “exploit” and little current investment, there was some potential for exploration as a “taster” for the future.

Watching relationships were, therefore, a valuable form of connection to clients that could increase in knowledge and/or economic value, for instance, as they or their market grew.

Watching relationships were managed through deal decisions and interaction choices. Within such relationships, sometimes very small deals would be used to stay connected to the client. Indeed, the term “watching line” was used across firms to indicate a very small deal with a (currently) lower-value client, just to “watch” and see what happens. More often, however, the economic returns and knowledge value were deemed insufficient or too uncertain to warrant a deal at the time. This is illustrated in the following fieldnote where a manager declined a deal, because the profitability at the time was too uncertain, while leaving open the possibility of doing a deal in the future, *“please show it to me again. It might be something we could do next year. We’re certainly interested to grow there if the market develops”* (Fieldnote). As this quote indicates, what distinguishes a “Watching” relationship, versus no relationship at all, is a sense that there could be potential future value “next year”. Reinsurers were able to maintain a high number of Watching relationships using light touch interaction. Industry conference meetings, for example, provided a particularly efficient means to engage with large numbers of existing and potential clients, allowing a single manager to conduct up to 30 individual meetings over a couple of days. These light touch, low cost interactions enabled reinsurers to “watch” - and attain knowledge from - many clients who were currently perceived to be of relatively low value, but with potential for that value to increase: *“we might decide to just see them at a conference rather see them any other way”* (Interview). Doing so, reinsurers were able to tap into the explorative potential of these relationships and stay attuned to opportunities that could warrant a change in the relationship in the future.

Holding relationships. Holding relationships are moderate-engagement relationships, characterized by moderate interactions (largely conference and roadshow meetings) and moderate-size deals. These were used when clients were deemed to have established economic value, but relatively low knowledge value. For instance, many clients provided a stable source of

economic value, were well known, well established and operated at their ideal size with no major plans to change. In our study, this often occurred in mature Western European and US markets where a client's business was relatively stable. While interactions with these clients were not expected to trigger the exploration of new avenues, they were still an important source of exploitation, allowing reinsurers to refine and modify services and products and get the most from existing offerings. As one manager put it, working with these clients enabled them to gradually "*clean up all the little bits in their products*" (Interview). This, in turn, helped reinsurers to protect their market share, maintain important client relations and maximize economic value.

Holding relationships were managed through specific deal decisions and interaction choices. Reinsurers often maintained mid-sized deals with these clients, as a manager explains:

We have a very long history with [Client] so over time we've reached a kind of optimum. We are already more or less where we want to be in terms profitability and the size of the relationship. With these moderate-sized European clients they usually are stable and we often have quite a long history of maintaining stable deals with them (Interview).

Interaction frequency and depth also supported the attainment of knowledge which was likely to be a source of exploitation for reinsurers. In addition to conference meetings, reinsurers used "road show meetings" where clients visited reinsurers to provide face-to-face updates and discuss plans. For example, in the quote below a manager explains how they are looking forward to a particular meeting to attain knowledge from a client that will refine their understanding of the client's situation:

More than half of our US clients will come here every year, maybe more than once, to visit [...] That's valuable. For example, Client [Name] is of particular interest this year because of a problem they've been having, so you want to know are they still okay. So that's one that springs to mind regarding the value of those meetings (Interview).

While road show meetings were more resource-intensive than conference meetings, in terms of getting a team together to meet the client, the resource investment was justifiable, not least because these client interactions provided a required stream of knowledge to refine and improve existing solutions for that client (exploitation).

Investigating relationships. Investigating relationships are also moderate-engagement relationships, but unlike Holding relationships, they usually involve more intensive interactions, including resource-intensive site visits, but smaller-sized deals. These were used when clients had low or uncertain economic value, but were deemed to offer much potential for exploration, alongside some moderate exploitation. In these instances, reinsurers entered small deals with clients which, despite relatively low or uncertain profitability, promised knowledge about an under-explored territory (e.g. Eastern Europe or Aviation in India as shown in Appendix A) or product line (e.g. terrorism products following the 9/11 attacks) which they knew little about, but were interested in pursuing. As one manager described to his peers during an internal meeting:

Manager: 'We're so new to this territory we thought it would be best to latch onto this client's penetration [in new territory] and through that get a good understanding of the market and other clients'. Colleague: 'yup, we're on a journey of discovery in Eastern Europe'. The manager points out the disadvantage; that 'it is not that well priced' which is why they are only doing a small deal with the client (Fieldnote).

Investigating relationships were managed through deal decisions and interaction choices. Because economic value was uncertain or low, these relationships were associated, as in the example above, with smaller deals that enabled reinsurers to “*put a toe in the water*” (Fieldnote) or “*do a small deal [...] to get a window on the world*” (Interview) by intensifying their engagement with a client. Small deals allowed reinsurers to strengthen their connections with the client and thereby attain knowledge, while maintaining a degree of protection to “see how it develops”, adjusting their investment in lockstep with the client's evolution.

Interaction frequency and depth also increased when using Investigating relationships, moving beyond conference meetings and road show meetings to include, for example, site visits. In reinsurance, site visits were a more in-depth and resource-intensive form of interaction where managers visited the client's premises, sometimes for days at a time, to attain in-depth knowledge directly from the client. During these visits, for example, reinsurers would learn about the clients' work practices, inspect their books and visit objects being insured. As one manager explained,

these deeper forms of engagement provided more nuanced insights, allowing them to “*kick the tyres, to go on-site where everything takes place and look at files, talk to underwriters*” (Interview).

Nurturing relationships. Nurturing relationships are high-engagement relationships involving more intensive interactions, including expensive social events, and larger-sized deals. In particular, these relationships were used when a client’s knowledge value and profitability were both considered high and/or growing. These relationships were reserved for a small body of top clients that were often global industry leaders. In reinsurance, these clients had extremely high knowledge value because they were usually large companies that spanned multiple territories and product lines, often operating at the forefront of industry developments. As one manager told us, these are the clients that can “*generate a lot of the new product ideas, design...everything*” (Interview). These were often demanding clients whose complex needs required reinsurers to innovate (exploration), whilst maintaining constant engagement to continuously refine their solutions and “*resolve anything that is an overhanging issue from the previous year*” (Interview) to ensure these critical clients were kept happy (exploitation).

Nurturing relationships were managed through deal decisions and interaction choices. The high knowledge value potential of these clients, alongside their high economic value, made these clients a highly desirable segment and reinsurers sought to do as much business as possible with them, including large deals. As one manager explained: “*Our shares on their deals are probably as large as they get. And we’ll never replace that revenue volume with half a dozen small clients*” (Interview). Interaction choices were oriented towards cultivating and protecting these client relationships, enabling reinsurers to generate more business and attain knowledge that could fuel innovative new solutions for those clients, but also for the overall client portfolio. In addition to conference meetings, road show meetings and site visits, for example, reinsurers would use large-scale social events, which ranged from wining and dining, to playing golf, to climbing mountains, to chartered sailing trips with clients. As these forms of interaction involved high costs and

significant time investments from senior executives and managers, they were reserved for the most valuable clients:

The clients invited to our big corporate event probably generated \$150-200 million for us. We might have spent \$250,000 on an event, it's peanuts by comparison. But our ability to outperform in our business is in part generated by our ability to understand our clients well, which is tied to that kind of event (Interview).

According to reinsurers, this investment was justified because spending time in less formalised settings fostered more open discussions, a much more nuanced understanding of their client's business, and access to unique and valuable insights.

In summary, reinsurance firms operated with large and diverse client portfolios. They dealt with this challenge by segmenting clients according to their perceived economic and knowledge value, which resulted in client portfolios being managed using four relationship types, each associated with different deal decisions, interaction choices and knowledge inflows.

B. Using client knowledge for ambidexterity

We now turn to the ways in which reinsurers utilised these various knowledge inflows for ambidexterity. Our analysis suggests that the knowledge attained within the four relationship types was used in two main ways to drive both exploration and exploitation. First, knowledge was explored and exploited *within* client relationships; that is, to develop or refine the offerings for the very client with whom the knowledge was attained. Second, knowledge from client interactions was used more broadly to fuel exploration or exploitation *across* the client portfolio; that is, exploitative and explorative within one particular clients relationship was frequently used to fuel exploitation and exploration in other relationships across the client portfolio (See Appendix B).

Using knowledge for exploration or exploitation within client relationships. The knowledge attained within a client relationship was frequently a source of both exploitation and exploration within the same client relationship. For example, knowledge attained within Nurturing, Investigating and Holding relationships was often used to incrementally refine existing client deals, sometimes with spill-over effects across product classes:

We used to only engage on aspects of the Marine deal; we avoided one element of it because it included bits of Casualty [usually a distinct deal from Marine] which made it messy. But over time one of our Casualty people sat down with this client and developed a new deal with [client] that cleaned up all the bits that I didn't like in the Marine deal so that we could then engage fully, which we have started to do (Fieldnote).

Here, the knowledge attained within a client relationship was primarily used to refine an existing product, but also helped tailor a new product for the same client (i.e., exploitation with some exploration).

However, client knowledge could also drive new knowledge development more directly. As one manager explained, deep knowledge about a client provides opportunities to be “*proactive about trying to offer them solutions*” (Interview); he continued:

So we've had all these meetings with them. We really know them now [...] and we have created a bespoke product for them that was fresh and new. I'm now structuring something else for them. They explained their problem to me and I'm trying to create something that will be completely new (Interview).

In this example, the knowledge attained through client meetings was a source of exploration for that same client; that is the development of a solution that was “completely new” for both the reinsurer and the client. In sum, knowledge attained within individual client interactions was used to make refinements to what was already known (exploitation) *and* engage in new knowledge development by creating new solutions for that client (exploration).

Using knowledge for exploration or exploitation across the client portfolio. Reinsurers also recognised that the knowledge attained within client interactions could be used to engage in exploitation and/or exploration *across* the client portfolio. Hence, at the portfolio level, exploitation and exploration were often entangled in practice, flowing across client relationships in various ways. For illustration purposes we analytically disentangle four main dynamics of using knowledge across the portfolio, with knowledge gained within one client relationship often able to be used to enable reinsurers to engage in either exploitation or exploitation for other clients. This relied on various knowledge sharing mechanisms such as information repositories or the distribution of client notes, which were common in all the firms we studied. As one manager explained, “*We have lots of meetings with clients [...] And then you get notes from those meetings and*

information packs. You integrate all the information and distribute it internally so that people know exactly [what was discussed]" (Interview). Specifically, these knowledge sharing mechanisms enabled the cross-client exploration and exploitation in four ways.

First, exploitation with one client often enabled exploitation, such as the refinement of a product, with another client. As the following fieldnote illustrates, long-term exploitation with one client (A) enabled Rachel to refine her understanding of another client (B), in the same territory:

Rachel says she doesn't have a lot of information for this new client [Client B] and needs a little more. She goes into the knowledge-management system and digs up information on [Client A] from the same territory. They really understand Client A, as one of Rachel's colleagues has been working with them for years. Drawing on knowledge of Client A, Rachel does some analysis to her understanding regarding doing a deal with Client B (Fieldnote).

More typically, exploitation across client relationships involved applying knowledge from one client to a variety of clients, or combining knowledge from various sources to improve product offerings for a range of clients. For example, reinsurers regularly combined insights attained from different clients to refine pricing solutions in geographic regions, which were then applied across multiple clients in that region (see Appendix B).

Second, exploitation with one or multiple clients was sometimes a catalyst for exploration with others. While this dynamic was less frequently observed, it was an important source of ambidexterity as existing knowledge was not just refined but enabled new knowledge development. For example, one manager was trying to develop a highly innovative product to meet the complex needs of an important client in TerritoryA. He explained that *"from a Western perspective this [new deal] is very risky"*. Ultimately, he was only able to do this because of his previous experience in TerritoryA gained through his multiple interactions with clients over more standard products. While he went on to develop new knowledge (exploration) to extend what he already knew from his portfolio of TerritoryA clients, this foundation was central in supporting his exploration, because he could ultimately understand *"there is a logic behind [the new request]; we know why they do it"* (Fieldnote). Thus, we saw reinsurers engage in exploration based

on the foundation of exploitation they had previously engaged in with a wider portfolio of clients.

Third, exploration with one client often enabled exploration across the wider portfolio. Nurturing and Investigating relationships, in particular, were central in providing opportunities for new knowledge development that was *not* client-specific, but more widely applicable. For instance, knowledge obtained through doing small deals to try-out an unknown territory were often not bound to the particular client with whom it was attained. Rather, the exploration of that territory, enabled by relations with one particular client, was applicable to multiple clients in that territory, sometimes prompting further exploration with other clients. Similarly, as in the example below, knowledge gained through “satellite” Investigating relationships were intended to bring innovation to the entire portfolio of marine products, rather than being only applicable to those “satellites” that were the source of the knowledge: *“With our marine business, we have a few solid, large connections [clients], around which we’d then build the additional portfolio. Those “satellites”...they bring innovation to it [the marine portfolio] (Interview).*

Finally, exploration with one client – e.g. the development of a new product, or new valuable knowledge about a territory – regularly fuelled exploitation with other clients as this new knowledge was refined and reapplied across the client portfolio. For instance, in the following indicative example new knowledge – a novel database compiled by the client that would change how the KIF dealt with this market – was attained within one Nurturing relationship:

The client explained that they had developed a new technical flood database for [Territory A]. The reinsurance manager is immediately interested: ‘who do you work with in order to develop such a database?’ The client explains that they work with local Councils, the federal government, universities and Google mapping. The reinsurance manager is taking notes quickly as the client talks. Observing the manager’s interest, the client says that on her next site visit, he will introduce her to the team who developed the model: She can take 2-3 days to get a thorough understanding (Fieldnote).

As the manager stated afterwards, access to this client’s novel database would then allow her firm to refine their solutions (exploitation) for all clients in Territory A (see Appendix B).

In summary, reinsurers used knowledge from client interactions to exploit and explore with specific clients. However, they also used it across their client portfolio by directly applying knowledge from one client to another and by developing composite pictures of particular client groups or territories.

C. Dynamically managing client portfolios for ambidexterity.

We have described how reinsurance firms: (a) sourced knowledge through segmented client portfolios and (b) used that knowledge to explore and exploit within particular client relationships and across the client portfolio. However, managing these client portfolios was a dynamic process, wherein the knowledge and economic value of clients grew or abated and their management was changed accordingly. While such changes can sometimes be hampered by internal politics and turf wars, the organizations we studied recognised that knowledge and economic value were key drivers of on-going (re)-evaluations of client relationships and their management (See Appendix C).

Managing growing knowledge and economic value. Watching, Holding and Investigating relationships all had the potential to *increase* in value (see Table 1). Indeed, the reinsurers we studied managed their portfolios with potential growth firmly in mind, as indicated by this example of a Watching relationship: “*Very often it’s not profitable for the time being [...but if] we believe this client will be profitable in the future, then we talk to them*” (Interview). Reinsurers were, therefore, acutely sensitive to the evolution of clients and their potential growth in revenue or knowledge value; as one manager outlined in the following email to a broker about a client:

We had a lengthy discussion today about whether we would be in the position to do a small deal with [Client A]. However, the data quality provided did not give us enough comfort. Hence, I am afraid that we cannot do a deal for the year 2012. We would like to have a meeting with [Client A] especially addressing this issue, as I am convinced they provides good quality potential (Fieldnote).

There are many reasons why the value of a particular client might increase. First, external events, such as terrorist attacks or catastrophic events, could generate demand for new types of products (e.g. complex terrorism products) and/or changes to the profitability of a region. For instance,

we observed managers talking about how Japanese clients became more economically attractive, because of price increases following the Tohoku earthquake. The knowledge value of these clients also increased as reinsurers clambered to gain the requisite knowledge about this market and these clients. Indeed, many reinsurers flew to Tokyo during 2011 and 2012, seeking to shift Japanese clients from Holding to Nurturing relationships, in order to attain knowledge and do larger deals with those clients. Second, reinsurers' strategy shifts could also change the value potential of clients, for instance when looking for opportunities to enter new markets or develop new products. Clients who could provide insights into those products or territories became more valuable to the firm. For instance, in 2011 GrowthCo (pseudonym) decided to expand into European Casualty business and thus suddenly made clients in that region and business - who they had considered Watching relationships at best a few years earlier - "high-value" targets. Finally, clients themselves sometimes changed in ways that increased their value. For instance, one client who maintained Holding relationships with many reinsurers developed a new product which signalled an increased knowledge value. Consequently, many reinsurers tried to elevate their relationship status from Holding to Nurturing. Those that were successful reaped the economic rewards of this new product (economic value), while also learning about a new product which they felt could dominate the industry in the future (knowledge value).

Managing decreasing knowledge or economic value. Responding to *decreases* in the value of particular clients was also critical to maintain the client portfolio as a source of ambidexterity. Managers pointed out that who they considered their high-value clients changed over time:

There are clients where I've radically cut back my participation and yet they're on our list as a key strategic partner for growth. However, the types of deals that they provide were simply currently not profitable" (Interview).

In this way, being attuned to decreases in the economic value of clients, and adjusting the type of interaction used, was vitally important, even those considered "key strategic partners". Shifts in knowledge value were also carefully monitored. For instance, in one meeting at FirmA a Senior

Manager, Brent, explained to his team that, as part of their consolidation strategy, they were going to scale back in a market they had been investigating to concentrate on their traditional markets instead. This meant that a number of Investigating relationships became Watching relationships. Such changes sometimes generated internal contestation. For example, during the meeting above, Tony, a manager in charge of “new territories” in FirmA, questioned Brent’s plans to scale back on new territories, pointing out that this meant a reduction in his personal of business, arguing that: “[it] is not realistic to cut 100 million from me!” (Fieldnote).

Aside from obvious fluctuations in expected client profitability, our analysis suggests that there was a temporal element to knowledge value. All things being equal, the knowledge value of many client relationships tended to decrease over time. As reinsurers gained knowledge from (and about) a particular client over a number of years they learnt most of what they needed to know. Thus, the relative potential for new knowledge generation gradually diminished. Over the course of a long-term relationship with a profitable client, therefore, clients often gravitated from a Nurturing relationship to a Holding relationship as reinsurers became knowledgeable about the client to the point that there was little more knowledge to be gained. Furthermore, once investigated, particular markets would sometimes have less potential than expected. If a reinsurer engaged in an Investigating relationship with, for example, an Albanian client over a few years they eventually reached a point where they had little left to learn from that client – indeed, their investigations may have negatively assess the economic value of Albanian clients. As a result they would then scale back that client relationship to either a Watching relationship or perhaps no relationship at all. We often saw this as reinsurers “tested” markets through Investigating relationships, but then withdrew as they got to know more.

A dynamic view of managing client portfolios for ambidexterity. Shifts in one part of the portfolio often impacted relationships in another, rather than being contained within one particular client relationship. This sometimes made dynamism a contested issue as specific individuals, or units, sought to protect or advance their parts of the portfolio relative to others.

For example, one manager we observed was upset when senior management sought to dramatically reallocate resources from his area to other, more attractive, territories:

The issue with having to reduce with those clients is that you can destroy relationships. That's our social capital, something you retain even if you leave the firm; but not if you have to destroy that social capital due to a senior management directive!" (Fieldnote)

Nevertheless, such changes were critical. A dynamic view of managing client portfolios for ambidexterity recognises that relationship types were constantly adjusted, as discussed above, and that these adjustments were not considered in isolation. Rather, what constitutes "knowledge value" was contingent upon the organization's existing knowledge base, environmental events, and strategic imperatives. Further, trade-offs needed to be made. Due to finite resources, investing in one relationship often meant *not* investing in another. There were only so many Nurturing relationships a reinsurer could maintain or target at any one time, given limited capacity to do large deals and engage in intensive interactions. We frequently saw reinsurers chose to decrease their engagement with one client, from a Nurturing to Holding relationship for example, not due to changes necessarily with that client, but due to the belief that another client had increased in value. A manager made such a connection between Client A and Client B below:

We went to Client A who is an excellent client. The next day we went to Client B and they're a complete shambles. They're officially in the top 15 of our "gold" clients, but in reality I think they're probably now in the top 100 [...] So I said to Client A we are available to do a larger deal with them than we did last year (Interview)

In this sense, it was Client A, rather than their previous "gold" Client B, to whom valuable CEO time for CEO-CEO meetings and investments in a large deal would be made available.

There was also a limit to how many Investigating relationships firms required. For instance, if a reinsurer developed an Investigating relationship with Client A to learn about a particular geographic market, then Client B – from the same territory – would represent less knowledge value as this knowledge was already being gained through Client A. Indeed, reinsurers frequently talked about particular clients as being, for example, "*the right one to learn about Poland*" (Fieldnote), so impacting the perceived knowledge value of other clients in that region. If over time Client C

– rather than Client A - became viewed as a better means through which to attain knowledge about a particular product or market than the development of an Investigating relationship with Client C decreased the value of Client A, with whom an Investigating relationship was no longer necessary. As these examples suggest, understanding changes in a client’s relative value, whether knowledge or economic, must be situated within a broader client portfolio and the complex interrelationships within it.

Discussion

This paper set out to address the research question: How are dynamic client portfolios a source of ambidexterity for KIFs? We now build directly from our findings above (A-C) to develop a process model that addresses this question (see Figure 1). This model constitutes a conceptual framework, illustrating how client interactions enable valuable knowledge flows (Bettencourt et al., 2002; Moore and Birkinshaw, 1998; Ofek and Sarvary, 2001; Skjolsvik et al., 2007) that are used *within* and *across* relationships in a client portfolio (e.g. Fosstenlökken et al., 2003; Skjolsvik et al., 2007) to enable both exploitation and exploration (March, 1991). We outline how, by assessing economic and knowledge value, KIFs can manage client portfolios to enhance their ambidexterity, and can do so over time by dynamically adjusting the composition of the portfolio in line with shifts in relative value.

< Insert Figure 1 here >

First, building from section A in our findings, the model shows how the differentiated relationship types constitute a segmented client portfolio (Box A, Figure 1) that produces different knowledge flows for exploitation and exploration within a KIF (Box B). Each relationship type is associated with different types of deal decisions and interaction activities. At one extreme, deep engagement with clients in Nurturing relationships has high knowledge value, both in exploiting existing products and markets, and in exploring new opportunities. At the other extreme, the light touch of Watching relationships produces minimal knowledge, although

there is some potential for exploration, as indicated by the relative size of the black (exploitation) and white (exploration) bars in Figure 1.

Second, building from Section B in our findings, knowledge flows attained within a segmented client portfolio are used within specific client relationship, but also across the portfolio more broadly (Skjolsvik et al., 2007). The critical insight is that the knowledge value of any one client is not determined solely by its use with that particular client, but by the opportunities for using this knowledge to engage in exploitation and exploration across relationships in the KIF's client portfolio. As a result, client selection should not exclusively focus on the independent value a particular relationship, but – more broadly – on the knowledge and associated economic value it can unlock across the portfolio. By effectively using the knowledge gained through high-knowledge value clients (e.g. Investigating relationships and Nurturing relationships), KIFs enable both exploitative (e.g. refining products or deals) and explorative (e.g. generating new products and accessing new clients and markets) outputs. Most critically, in light of our previous argument, this understanding helps KIFs balance the competition for high-value client relationships with those that provide emerging opportunities. For example, while any KIF would want to work with Nurturing clients of high economic and knowledge value, KIFs with a more differentiated portfolio can also focus on the value from Investigating relationships. While these other relationships may appear less attractive to competitors, given their current lower economic value, KIFs with an ambidextrous approach can use their knowledge from these relationships to unlock hidden value across their portfolio.

Finally, the management of the client portfolio has been shown to be dynamic, with clients moving between relationship types as their knowledge and economic value fluctuates. The client portfolio is continuously re-evaluated and adjusted as managers trade-off resource costs associated with different relationship types and interactional activities against perceived knowledge and economic values of a client relationship (Box C); a process which is sometimes contested or political (Starbuck, 1992). Indeed, the composition of the client portfolio will be

dynamic, continuously evaluated and readjusted according to what is happening elsewhere in the client portfolio. The relative knowledge value of a client will shift according to the way the KIF pursues opportunities enabled by client relationships, so requiring rebalancing of the portfolio and a corresponding reallocation of relationship management resources. That is, Box C impacts the client portfolio (Box A), as it is constantly evolving.

To conclude, our process model, Figure 1, explains *how* KIFs become ambidextrous through a carefully segmented client portfolio, which enables them to explore and exploit within – but also across - client relationships, whilst continuously dynamically adjusting this diverse client relationships.

Conclusion: Managerial and Theoretical Implications

Managerial implications. Our findings constitute a practical tool that can help managers to devise and manage client portfolios for ambidexterity. Although our framework emerged out of the global reinsurance industry, we believe it has broader conceptual application in other professional or knowledge-based industries – e.g. financial services, consulting, legal services, advertising etc. – where organizations must manage large and diverse client portfolios (see, for example, Dawson, 2012; McCracken et al., 2008). By segmenting the client portfolio using the four relationship strategies we outline, KIFs can unlock the knowledge potential of their client relationships to enhance their organizational ambidexterity. This may enable KIFs to manage their client portfolio more astutely, for example, by identifying clients with exclusive knowledge potential, yet possibly limited current economic value, to attain knowledge that can be used with other clients. This is summarized as a matrix in Figure 2.

< Insert Figure 2 here >

The portfolio matrix encourages managers to begin by considering the economic and knowledge value of their clients, asking: *What is the relative economic value of this client?* and *What is the potential knowledge value of this client?* Critically, our framework suggests that KIFs should not only concentrate on clients that are of current high value in terms of both knowledge and economic

indicators, but on enabling ambidexterity by balancing current and potential future knowledge and revenue from client relationships. Ruminating on these questions will enable managers to identify which clients should be managed through which of the four relationship types.

We described how relationship types were managed primarily through deal decisions (ranging from no or small deals to large deals) and interaction choices (e.g. conference meetings, site visits, social events). While other industries may have different interaction choices, it is important that the relative level of interaction (and resource cost) matches the knowledge and economic value of the client. Indeed, part of the value of the framework is in identifying inefficiencies (over-engagement) or lost opportunities (under-engagement) where the interaction choices do not match the client's value. In summary, our framework provides an antidote to a pure client-service ethos, which may lead to the blanket use of expensive engagement strategies and over-investment in relationships that have low potential of returning that investment.

Our findings and framework suggest that managers should continually re-evaluate their client portfolios and match relationship management activities to the levels of economic and knowledge value they can release. We also show that firms must also pay attention to potential internal resistance and politics in order to make the right decisions and changes to their portfolio. Such insights are relevant to all KIFs that have large client portfolios that change over time. Managers need to question and re-question whether their assessment of a client's overall value (economic and knowledge value) is consistent with the relationship strategy they are applying (e.g. Nurturing, Holding, Investigating, Watching). This dynamism is central to the theory of ambidexterity: today's high-value client may not be tomorrow's.

Theoretical contributions and implications for future research. Our findings and conceptual framework contribute to the ambidexterity and KIF literatures in a number of ways. First, we extend existing research on external sources of ambidexterity (e.g. Koza and Lewin, 2000; Im and Rai, 2008; Lavie et al, 2010) by showing that client relationship portfolios are not simply an agglomeration of *either* explorative *or* exploitative relationships, but may enhance

ambidexterity through combining relationships that are a source of both *both* exploitation *and* exploration, albeit to different degrees (Im and Rai, 2008). This more nuanced perspective provides an alternative to existing approaches that examine ambidexterity at the aggregate level of the entire portfolio, in which the independent outputs of separate, purely explorative or exploitative relationships are deemed to produce the benefits of ambidexterity (Kauppila, 2010; Koza and Lewin, 1998; Lin et al., 2007; Rothaermel and Deeds, 2004; Vassolo et al., 2004). We show that ambidexterity is neither fully explained at the level of the aggregate portfolio (Tiwana, 2008), nor at the individual relationship (Im and Rai, 2008), but through the knowledge flows *between* relationships in the portfolio, each of which may entail different levels of exploitation and exploration. In particular, our process framework emphasizes a previously under-explored *dynamic* dimension to client portfolio management and the interconnections within a portfolio. Extending insights proffered by Lavie and colleagues (2010) and Cohen and Levinthal (1990) that valuable knowledge is always contingent upon an organization's existing knowledge base, we have shown how managers can continuously evaluate the knowledge contributions that can be expected from a particular relationship in light of what has already been learned from others.

Second, by extending our analysis to financial services that are not typically central to the KIF literature, our dynamic process model draws attention to the management of large client portfolios that may span hundreds of clients being served simultaneously. By differentiating different forms of client engagement and matching them to different combinations of knowledge and economic value, we demonstrate how large client portfolios can be managed while retaining control over relationship management costs. As discussed above, our study illustrates how organizations with similarly large client portfolios operating in other sectors can manage their portfolios for greater knowledge opportunities (Dawson, 2012; Sarvary, 1999) whilst allocating resources to relationship management activities in accordance with their expected benefits.

Third, our study provides an ambidexterity framework that specifically accentuates the role of clients, rather than the dominant focus on alliance partners as sources of ambidexterity (Grant

and Baden-Fuller, 2004; Kauppila, 2010; Koza and Lewin, 1998; Lavie and Rosenkopf, 2006; Lin et al., 2007; Padula, 2008; Rothaermel and Deeds, 2004; Tiwana, 2008). Broadening the perspective on external sources of ambidexterity in this way connects ambidexterity more closely to the conduct of everyday business, rather than isolated strategic initiatives. That is, while not all KIFs rely on a portfolio of alliances, understanding how client portfolios are managed for ambidexterity is applicable for a wide-range of firms (Fosstenløykken et al., 2003). We contribute to both the ambidexterity and KIF literatures by specifying with greater clarity how ambidexterity can be sourced in different client relationships and what constitutes the “right” kinds of clients to foster business opportunities from knowledge creation (Bettencourt et al., 2002; Fosstenløykken et al., 2003; Lowendahl, 2005; Løwendahl et al., 2001). In particular, our study illustrates how variations in knowledge value may be combined within different relationships, and how knowledge attained within one relationship can be used to engage in *both* exploitation and exploration across relationships and the client portfolio. This has typically been excluded from analyses of external relationships as a source of ambidexterity and of client relationships as a source of knowledge more generally in the KIF literature.

Finally, our process model extends existing work on ambidexterity by shifting focus from the performance effects of external ambidexterity (Im and Rai, 2008; Morgan and Berthon, 2008) to the process by which such benefits are realized. This process focus on ambidexterity is a recognized omission in existing research (Gupta et al., 2006). In particular, we focus on how a client portfolio becomes a source of ambidexterity through a process of attaining and using knowledge across the portfolio. This also advances the understanding of client portfolio management in the KIF literature, which has previously focused on the selection of appropriate clients (Bettencourt et al., 2002; Fosstenløykken et al., 2003; Skjølsvik et al., 2007) and the activities that generate knowledge (Nikolova et al., 2009; Reihlen and Nikolova, 2010), or sharing knowledge internally (Haas and Hansen, 2007; Hansen et al., 1999; Morris, 2001; Werr and Stjernberg, 2003). Our model provides a more complete image of these activities in KIFs,

bringing them together as a process of attaining knowledge through a client portfolio and exploring and exploiting within and across those individual relationships and then adjusting this portfolio dynamically. In contrast to the existing literature, this provides an explicitly dynamic view of the process by which client portfolios become a source of ambidexterity for KIFs.

Our study provides the grounds for future research to take a more dynamic approach to enabling ambidexterity through client relationships. In addition, we hope that this will spur similar research in different settings and indeed further tease out comparative differences between firms with regards to this process. Moreover, we believe there is scope for more detailed research which focuses on the particular intra-firm knowledge sharing mechanisms and processes that are essential to *dynamic* portfolio management and ambidexterity.

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Figure 1. A process model of how client portfolios can become a source of ambidexterity for KIFs

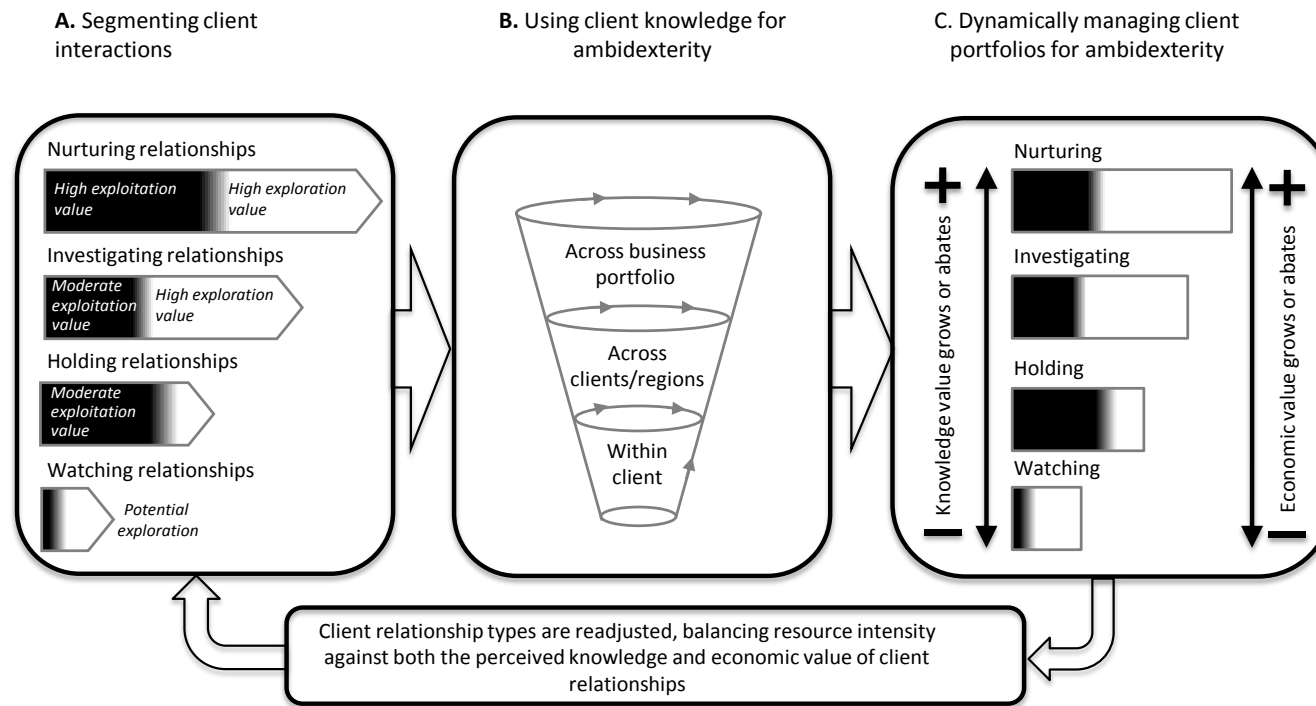


Figure 2. A model for client portfolios as a source of ambidexterity

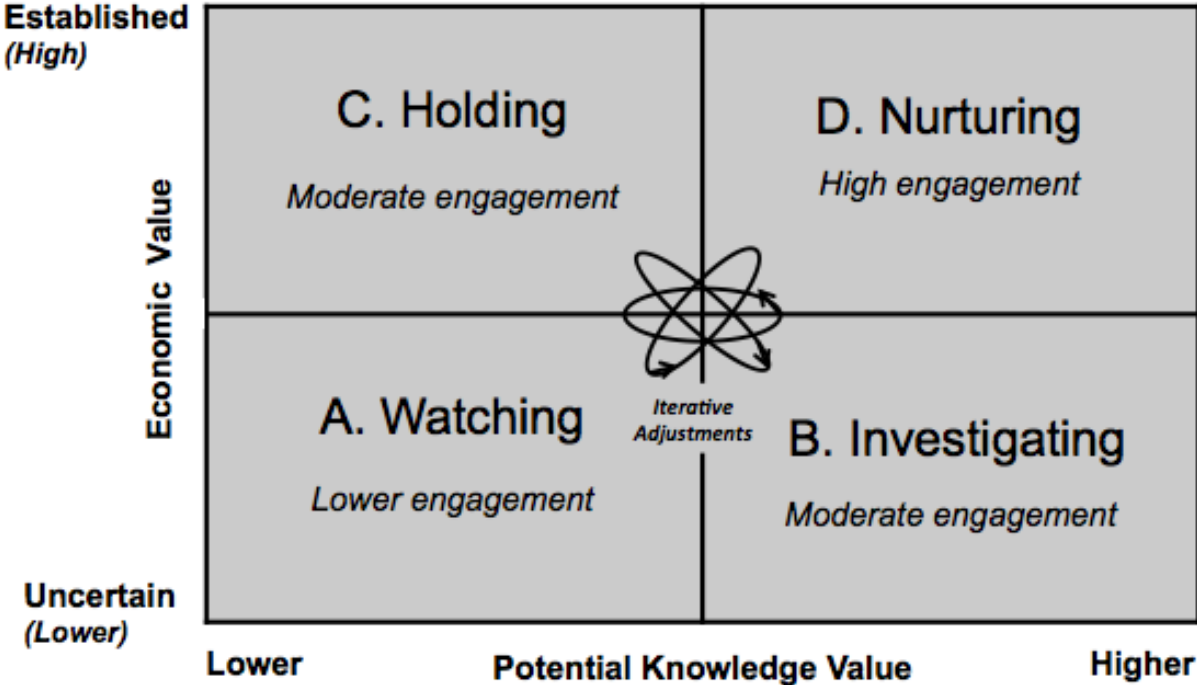


Table 1. Summary of findings: Dynamic client portfolios as a source of ambidexterity

		<u>Watching Relationships</u>	<u>Holding Relationships</u>	<u>Investigating Relationships</u>	<u>Nurturing Relationships</u>
		Lower economic value & lower knowledge value <i>Potential exploration</i>	Higher economic value & lower knowledge value <i>Moderate exploitation</i>	Lower economic & higher knowledge value <i>High exploitation & moderate exploitation</i>	Higher economic & higher knowledge value <i>High exploitation & exploitation</i>
A. Segmenting client interactions (Appendix A)	Interaction choices and deal decisions based on client value	<ul style="list-style-type: none"> – Focus on conference meetings – No deal [or very small deal] 	<ul style="list-style-type: none"> – Focus on conference and road show meetings – Moderate sized-deals (to attain moderate economic value) 	<ul style="list-style-type: none"> – Conference, road show meetings, plus site visits – Small deals (to attain knowledge value) 	<ul style="list-style-type: none"> – All four interaction-types, including social events – Large deals (to attain value)
B. Using client knowledge for ambidexterity (within client relationships & across the client portfolio) (Appendix B)	Explore/exploit within specific client relationship and across the client portfolio	<ul style="list-style-type: none"> – Currently low (but looking towards the future) 	<ul style="list-style-type: none"> – Largely focused on exploitation within a specific client relationship 	<ul style="list-style-type: none"> – Exploration and exploitation within the particular client relationship and across the client portfolio 	<ul style="list-style-type: none"> – Exploration and exploitation within and for the particular client relationships and across the client portfolio
C. Dynamically managing client portfolios for ambidexterity (Appendix C)	Client perceived to increase in value	<i>Shift upwards</i> <ul style="list-style-type: none"> – Potential for increases in knowledge (Investigating) or economic (Holding) value or – less frequently – both (Nurturing) 	<i>Shift to Nurturing</i> <ul style="list-style-type: none"> – Potential to become a Nurturing relationship if knowledge-value increases 	<i>Shift to Nurturing</i> <ul style="list-style-type: none"> – Potential to become a Nurturing relationship if economic value increases 	<i>Maintain</i> <ul style="list-style-type: none"> – Maintain Nurturing relationship.
	Client perceived to decrease in value	<i>Consider ending</i> <ul style="list-style-type: none"> – If the relationship decreases to the point there is no potential value invest time and resources elsewhere 	<i>Shift to Watching</i> <ul style="list-style-type: none"> – Potential to become a Holding relationship if client's knowledge value decreases 	<i>Shift to Watching</i> <ul style="list-style-type: none"> – Potential to become a Watching relationship if client's knowledge value decreases 	<i>Shift downwards</i> <ul style="list-style-type: none"> – Potential for decreases in knowledge (Investigating) or economic (Holding) value, or – less frequently – both (Nurturing)

Appendix A. Segmenting client interactions

<p>Watching relationships</p> <ul style="list-style-type: none"> - <i>Low economic value and low knowledge value.</i> - <i>Primarily managed through small (or no) deals using conference meetings.</i> 	<ul style="list-style-type: none"> - Little exploitation potential; but attuned to possibilities for exploration. “We are going to the so-call [X] conference, which is the same as Monte Carlo [largest reinsurance conference] for these emerging countries [...] we are going to Turkey and we will do exactly the same...it’s extremely important to have a few relationships [...] to know the market” (Interview). - Interactions (often) focused on conference meetings: “Currently our company doesn’t do any business with this client [...] Korea is a difficult market and we really need to get to understand it and know the market from within. At these conference meetings we can get to know more about the market, and maybe even pick up a new client” (Fieldnote). - Small (or no) deals due to value assessment: “If the information is insufficient then we don’t feel comfortable; you’re also uncertain about the financial viability at that point, that’s where we say ‘oh we better not do a deal’” (Interview).
<p>Holding relationships</p> <ul style="list-style-type: none"> - <i>Higher economic and lower knowledge value.</i> - <i>Primarily managed through moderate-sized deals and using conferences and road show meetings.</i> 	<ul style="list-style-type: none"> - Low exploration potential; but moderate exploitation potential. “You need to have a handful of partners that give you kind of the mass, that perform decently, predictably, with relatively low volatility. I would say, so that it generates a decent steam of income [...] you need others for innovation” (Interview). - Interactions (often) restricted to roadshow and conference meetings: “It’s an hour of talking about the business, what they’ve been doing in the last year, what is important in the next renewal. But if it’s a client I know I don’t want to grow further with, I avoid the dinner” (Interview). - Moderate deal-size “Bob assesses a deal he’d participated on for decades: <i>‘It so stable we haven’t done new actuarial pricing assessments since 2010’</i>. The profit margin is slim but stable: <i>‘we’ve been doing this deal since 1995 with no losses ever.’</i> He will maintain the same modest level of participation” (Fieldnote).
<p>Investigating relationships</p> <ul style="list-style-type: none"> - <i>Lower economic & higher knowledge value.</i> - <i>Primarily managed through small deals using conference, road show meetings, plus site visits.</i> 	<ul style="list-style-type: none"> - Moderate exploitation potential. “With Client A we have no clue [how they work...] So one of the difficulties we have is understanding where these guys are going [...] you cannot actually understand what they are doing by just listening to them, you have to observe them and understand them” (Interview). - High exploration potential: “I met this Albanian client at the conference and then visited them in Albania three weeks later, my first visit to that country! When I was there I had a closer look at their organization; their products; how they analyse policies; gained an understanding of regulatory topics such as how insurance premium is taxed for example” (Fieldnote). - Interactions (often) required site visits: “In Russia, the whole market is in flux. You need to visit the client to really understand what they are dealing with” (Interview). - Small deals to attain knowledge potential: “within the portfolio [...] I would normally build additions so that you can be a bit more innovative, include different kinds of clients from different territories. I mean if we explore now a market like say India for aviation, I wouldn’t want to have my largest exposure for aviation coming from India, but I like to build up a little bit of know-how there through doing smaller deals” (Interview).
<p>Nurturing relationships</p> <ul style="list-style-type: none"> - <i>Higher economic & knowledge value</i> - <i>Primarily managed through large deals using all forms of interaction.</i> 	<ul style="list-style-type: none"> - High exploitation and exploration potential. “I’d be seeing them (Manager at client) maybe once every couple of months, plus other members of his team. So we’re talking about trying to resolve anything that was an overhanging issue from the previous flow but then also, the focus becomes very much on what else is there in the pipeline” (Interview). - Social events reserved for Nurturing clients: “We did a sailing event on the south coast of the UK just because one of our clients liked sailing [...] there isn’t a deliberate attempt to link that directly with deals [...] But if you go back to people wanting to do business with you, understanding why people do what they do...that’s where it makes a difference” (Interview). - Large deal. “The money comes from the big players. In each and every market I would say 75% is in the hands of the top five clients” (Interview).

Appendix B. Using client knowledge for ambidexterity

Within client relationships

Exploitation for in-client outcomes

- “It's the specialisation of each manager within that geographical segment which gives them the experience with those clients, year-on-year, they get more and more familiar and do a better deal” (Interview).
- “If [senior manager] goes to meet with [Mega-client's CEO] and they have a really high level conversation. That has nothing to do with a specific deal, but everything to do with the mega-client/Reinsurer relationship. That can get lost in the ether or effectively stay inside [experienced-manager's] head! It doesn't really get out anywhere. So with our new system, the idea is that this would be a depository for that sort of information that anyone can access it to improve our offerings” (Interview).

Exploration for in-client outcomes

- “You're working with your client on new ideas and new deals. And that's ad-hoc, that's all dependent on the client. In order to do that you tend to have at least two discussions a year with each client on new ideas that are reflective of their business goals and what they're trying to do (Interview).
- “For us to get any growth out of them (big clients), we've either got to go to them with a growth opportunity, i.e. a new product...generate a lot of new product ideas, designs” (Interview).

Across the client portfolio

Exploitation across client portfolio

- E.g. Exploitation with one client used for further exploitation with another: Manager: “We need realistic market data to better understand each specific market. They [in-house analysts] are taking the same generic percentages for my market and some others. I can help refine this to be more market specific.” Senior Manager: “You want to use the information you have from your core clients to refine the market pricing assumptions for those markets and all the clients in them? They'll [analysts] be thrilled” (Fieldnote).
- E.g. Exploration in Territory A to engage in exploitation in Territory B: “He outlines how he came up with a price for the deal for the client. To get an understanding of the deal his team had compared Territory A with Chinese Livestock rates – these are the mortality rates and used to construct relative pricing for deals in each country. They had gained knowledge about these rates from clients over the last couple of years of interacting with them” (Fieldnote).

Exploration across client portfolio

- **Exploration** with one client that will be broadly applicable to lots of clients: “This [product] is going to be more and more of our reality as the global market develops. It's a big challenge, but we really have to work with them [client] to develop and understand this [type of product]” (Interview).
- **Exploration** with one set of client that will be broadly applicable to the portfolio: “There's a growing trend in the industry towards [new type of product]. We should be open to it...it's up to us to for work with them on it to understand this new product” (Interview).
- Exploitation with one client leading to **exploration** with others: The manager explained that they knew a lot about RiskA through their existing deals. In order to trade in this new type of deal (RiskB), which they knew very little about, with ClientA they had therefore taken their existing knowledge of RiskA and heavily amended it to allow him to trade in a new product. (Fieldnote).

Appendix C. Dynamically managing client portfolios for ambidexterity

- Responding to increasing value**
- “Chinese insurance companies have balance sheets which are enormous. There's one Chinese insurer who's got a balance sheet, in terms of dollars, of \$160 billion, so they've become the largest players in the world and we haven't realised it [...] So China is a very interesting market [...] Two months ago we had two Chief Execs and Financial Officers from Chinese companies coming to see us here” (Interview).
 - “[Client X] where they have been modelling for a long time and writing small lines, trying to really understand that business – “we've been all mouth and trousers but this year we finally got close enough to do a big deal” [...] so it is now about having an on-going relationship with them to understand their business even better” (Interview)
-

- Responding to decreasing value**
- “[This region] is a mess, it's a catastrophe...there are reasons not to write much business [in this territory] [...] It's complicated [...] our position regarding [this territory] was quite reluctant and decreasing” (Interview).
 - We dropped some business this year that had no margin associated with it. So there was a deal which was with one of the key clients, which was about \$[multi-million] of revenue last year [...] but actually there wasn't value associated with that deal. So we got rid of it. We'll keep an eye on it; see if it comes back up but ... (trails off) (Interview)
 - *Trap of sticky relationships/ decreasing engagement a political/ contested process:* “For a number of reasons we tend to have good relationships with Client A and, and they're big and they spend a lot of money on their reinsurance, but I don't think it's well priced. And, but there is pressure to do big deals with Client A just because it's supposed to be a key client. But I feel quite uncomfortable doing that.” (Interview).
-