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**Subsidiary Ambidexterity: A New Lens Through Which Subsidiary
Bargaining Power can be Examined?**

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Abstract

The ability of an organisation to adapt and evolve in accordance with external change is frequently cited as a path to sustainability and longevity of operations. The manner in which change, transformation and adaption manifests itself within an organisation continues to prompt research across a wide and varying array of disciplines. Of particular interest in terms of organisational change is capability development as a vehicle for transformation. If real transformation is to occur the organisation must go beyond incremental change in extending and modifying the ways in which it operates (Helfat et al. 2007). Capability development as a driver for organisational transformation therefore recognises the importance of the modification and adaption of a resource base in accordance with external change.

The emerging dynamic capabilities perspective argues that in turbulent environments it is the adaption and modification of capabilities which fuels competitive advantage (Teece, 2007; Teece and Pisano, 1994; Teece, Pisano and Shuen, 1997). Indeed it is widely argued that what differentiates one organisation from another is largely determined by their resources and how they implement and utilize them (Wernerfelt, 1984; Barney, 1991, 1995; Peteraf, 1993). It is now emerging, however, that to meet the exacerbating challenges of fast moving, globally competitive markets, organisations need unique and difficult to replicate dynamic capabilities. This progression in theory aims to overcome the static nature of the resource based view (Mahoney and Pandian, 1992; Priem and Butler, 2001a; 2001b) and addresses the causal questions of how organizations can ‘continuously create, extend, upgrade, protect and keep relevant the enterprise’s unique asset base’ (Teece 2007, p. 1319).

This paper argues that whilst the dynamic capabilities perspective is useful and congruous to change it falls short when applied to subsidiary theory; limiting its applicability to theory and practice in this domain. The subsidiary context is a complex one; characterised by the need for alignment with headquarter driven objectives on one hand, and the need for responsiveness on the other (Scott, Gibbons and Coughlan, 2010) The scope for subsidiary adaption is largely contingent upon headquarter approval and controls in which case subsidiary management may affectively find their hands tied in pursuing adaptive strategies. The agency problem therefore raises some serious concerns over the applicability of the dynamic capability perspective in a subsidiary context. Juggling the competing goals of alignment and adaption reflects a real challenge for subsidiary management. The dynamic capabilities framework fulfills only the responsiveness dimension essentially ignoring crucial aspects of alignment.

This paper proposes looking at the other side of the coin in examining how mechanisms which allow for greater alignment can impact upon the subsidiaries capacity to be adaptive. It is argued that the subsidiaries capacity to gain access to resources and leverage their position will be largely contingent upon the space they occupy within the MNC network. This dual structure of alignment and adaption, and the combinative approach taken in this paper, has been referred to as ambidexterity (Duncan, 1976; Gibson and Birkinshaw, 2004).

Supported by a series of semi structured interviews with subsidiary management the approach taken is in accordance with a recognised need for greater qualitative research into dynamic capabilities and in particular the subtleties of resource creation and regeneration (Ambrosini and Bowman, 2009). A dual structure of alignment and adaption is advanced as reflecting what has been referred to as a higher order capability (Helfat et al. 2007) and which is particularly relevant in a subsidiary context. Finally the scope of capability development as a subsidiary differential and as a valid driver of subsidiary bargaining power is discussed and suggested as a viable avenue for future research.

INTRODUCTION

As multinational corporations (MNC'S) face greater competition on a global scale there is a growing onus on the subsidiary to contribute above and beyond their core mandate. While organisations are operating under increased environmental uncertainty, this is exacerbated for subsidiaries who must also overcome additional complexities within their immediate internal MNC environment. The subsidiary context, and how the subsidiary relates and engages with corporate headquarters, and its local environment, are all dimensions which add to this complexity (Birkinshaw, Hood and Jonsson, 1998). The increasing threat of relocation to lower cost economies (Anderrson, Forsgren and Holm, 2007) and growing intra-firm competition for resources and mandates (Mudambi and Navarra, 2004) serves to accentuate this.

One of the approaches within the organisational perspective literature holds that to be successful, organisations need to build dynamic and adaptive capabilities; which serve to renew their resource base in accordance with external change (Teece, 2007; Teece and Pisano, 1994; Teece, Pisano and Shuen, 1997). Yet this is significantly more difficult for the subsidiary if their potential adaptability is hindered by restrictive mechanisms imposed by the parent.

This paper argues that whilst recognising the value of the dynamic capabilities perspective it fails to meet the requirements of the subsidiary dual context; characterised by the need for alignment on one hand, and the need for responsiveness to both local external and internal MNC opportunities on the other (Scott, Gibbons and Coughlan, 2010). The scope for subsidiaries to adapt in response to opportunities and to remain attuned with environmental dynamism is largely contingent upon headquarter approval and the controlling mechanisms inherent within the structural attributes of the MNC (Andersson, Björkman and Forsgren,

2005). It is therefore likely that without headquarter support subsidiary management may effectively find their hands tied in pursuing adaptive strategies; limiting the application of dynamic capability theory in this domain. It is advanced that a dyadic approach which recognises the importance of both subsidiary alignment and adaptability better captures the subsidiary context within the modern MNC. Juggling the competing goals of alignment and adaption represents a real challenge for subsidiary management, and from a theoretical perspective suggests the need for supporting theory to capture these complexities. Drawing upon theory of the ambidextrous organisation (Duncan, 1976) and the dynamic capabilities perspective (Eisenhardt and Martin, 2000; Teece, 2007; Teece and Pisano, 1994; Teece, Pisano and Shuen, 1997) it is argued, will shed additional light on this under researched phenomena within subsidiary theory.

As headquarter recognition of subsidiary-specific capabilities becomes increasingly important in terms of access to slack resources and mandate expansion (Birkinshaw, 1996; Mudambi and Navarra, 2004) the changing roles apparent in the modern MNC calls for greater research recognition (Frost, Birkinshaw and Ensign, 2002). Central to these changes is the assertion that the subsidiary, through its initiatives and idiosyncratic capabilities, can influence strategy *from below* (Andersson, Forsgren and Holm, 2007). Through proving its capacity to add value and the active pursual of profile building, the subsidiary can arguably differentiate themselves from sister subsidiaries and build some level of autonomy which can then be leveraged (Bouquet and Birkinshaw, 2008). This leverage can be used to build further resources and therefore suggests a cyclical power building process. This is known as bargaining power (Mudambi and Navarra, 2004) and has recently come under increasing scrutiny as it captures the subsidiaries ability to negotiate for resources. Subsidiary bargaining power as a potential outcome of building ambidexterity is explored in this paper.

The role of middle managers as mediators between strategy and operations (Nonaka, 1994) is a crucial one, although it has been largely overlooked within the subsidiary literature to date (Balogun, 2003). It is advanced that through incorporating a middle manager dimension we can examine capability development at the operational level and explore how change and adaption is incorporated into strategy development. In addition, issues pertaining to subsidiary bargaining power are explored with both middle and senior management in triangulating the results. Senior management, given their level of experience are held as the most knowledgeable in terms of organisational strategy, structure and performance (Hambrick, 1981) and therefore included as targeted respondents.

This paper contributes to theory on how ambidexterity applies to the subsidiary context with all its inherent complexities. In addition it contributes to our understanding of the relationship between ambidexterity and subsidiary bargaining power. Finally, it addresses the managerial implications of building subsidiary bargaining power, its tangibility and foundations.

The paper takes the following structure; the theoretical underpinnings of ambidexterity are discussed, addressing the enabling and inhibiting factors within the organisation which serve to drive or impede the building of ambidexterity in a subsidiary context. The next section deals with subsidiary bargaining power, its origins and potential outcomes. Subsequent sections address both the methodology undertaken and findings. Finally a discussion of the findings is presented along with managerial implications and directions for further research.

AMBIDEXTERITY – CONCEPTUAL BACKGROUND

In his seminal work, Duncan (1976) refers to ambidexterity as comprising of ‘dual structures’ which focus on alignment and adaption and the dilemma facing management in pursuing these two competing goals. Tushman and O’Reilly (1996) hold that in an organisational context ambidexterity

encompasses the capacity of management to master both evolutionary and revolutionary change. The former concerns the alignment of strategy within an organisation which ensures adherence to common goals, and is characterised by incremental change. Revolutionary change encompasses a longer term perspective, where ‘managers periodically destroy what has been created in order to reconstruct a new organization better suited for the next wave of competition or technology’ (Tushman and O’Reilly 1996, p. 24). Similarly the dyadic structure of exploitation and exploration proposed by March (1991) is credited with providing the catalyst for current research on ambidexterity (Raisch and Birkinshaw, 2008). March (1991) addresses how managers must meet the opposing goals of exploitation and exploration in allocating their attention and resources between the two. The organisation must meet short term demands for efficiency, incremental improvements and continuous innovation whilst the adaption needed for exploration emphasises a longer term perspective with flexibility, risk taking and looser systems (Raisch and Birkinshaw, 2008). This is particularly more complex within a subsidiary context however, where not only autonomy plays a pivotal role, but the subsidiary must also go beyond its immediate mandate if it wants to gain recognition.

The ascent of ambidexterity as a dynamic capability is one which is gaining favour within the literature (O’Reilly and Tushman, 2007) yet lacking in empirical analysis. This paper adopts the approach that ambidexterity, whether dynamic or not *is* a capability; and one which mediates the influence of subsidiary context on subsidiary contribution to the MNC. Ambidexterity comprising of both alignment and adaption is now discussed demonstrating how each of the constructs fit within the narrower subsidiary context.

Alignment – The Structural Context

The structural context and how it can shape strategic behaviour is well documented within the literature (Burgelman 1983), and is of particular importance to the subsidiary. Alignment involves maintaining coherence in the activities undertaken by various business units, ensuring they are all working towards the same goal (Duncan, 1976). This essentially encourages the adoption of a shorter term focus with an emphasis on proximate performance metrics (Gibson and Birkinshaw, 2004).

Adherence to headquarter driven objectives along with integrative mechanisms that ensure communication with peer units is a fundamental facet of alignment. Internal alignment with peer units is also essential if the potential synergistic returns of a federative MNC are to be realised (Andersson and Forsgren, 1996; Hedlund, 1980). Mechanisms facilitating the sharing of knowledge and the extent of interdependencies between subsidiary units are all therefore central to subsidiary alignment.

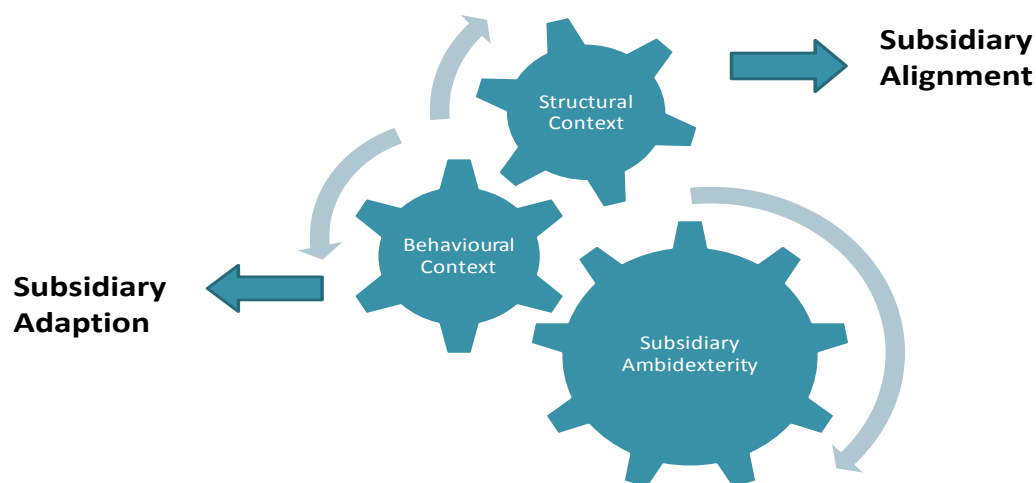
Through formal and informal integrating mechanisms the subsidiary becomes more aware of the resources and capabilities in other sites facilitating greater coordination; which has positive implications on global competitiveness (Gupta and Govindarajan, 2000). Indeed, 'The purpose of lateral integrating mechanisms is to develop in subsidiary managers an understanding of the role of their particular subsidiary and, more important, the role of other subsidiaries, in meeting overall corporate goals' (O'Donnell 2000, p. 532). Integration at the lateral level is therefore crucial in examining how the subsidiary can exploit the resources and capabilities within the MNC structure through interacting and collaborating with peer subsidiaries. Whilst lateral integration deals explicitly with the subsidiary –subsidiary relationship there is also a need to examine the impact of vertical integration on adaptability. On the one hand the vertically integrated firm is characterised by slow learning and strong path dependencies (Teece and Pisano, 1994), factors which are characterised by a static structural context. In contrast however, increased contact, interaction and frequency of communication may provide an invaluable platform for the subsidiary to potentially present and push its initiatives to headquarters. Adopting this latter hypothesis it is arguable that greater vertical integration can lead to greater state of alignment for the subsidiary.

Factors which influence the dispersion of resources and attention, as indicators of the structural context also warrant analysis. A central feature in the conceptualisation of the MNC as an intraorganisational network is the assertion that attention and resources are unevenly spread across the MNC network (Ghoshal and Bartlett, 1990; Szulanski, 1996; Tsai, 2001; Zaheer and Bell, 2005). Tsai

(2001, p. 997) contends that; ‘occupying a central position in the interunit network, a unit is likely to access desired strategic resources’ whilst Zaheer and Bell (2005) assert that internal capabilities are enhanced by a superior network position; reflecting the ability of the subsidiary to differentiate itself from its peers.

It is at this juncture that the interplay between alignment and adaption becomes apparent. For a subsidiary to gain the necessary slack and resources needed to pursue adaptive strategies they must also be relatively aligned with headquarters; illustrating the interaction between both their behavioural/capability context and their structural context. The active pursual of these competing, yet interrelated goals captures the complexities of ambidexterity ‘as a multidimensional construct comprised of the nonsubstitutable combination of alignment and adaptability (that is the multiplicative interaction of the two capacities)’ Gibson and Birkinshaw (2004, p. 216). The interaction of alignment and adaption is depicted below, before discussing the behavioural/capability context;

Fig.1 The Ambidextrous Subsidiary



Adaption – The Behavioural/Capability Context

A subsidiary’s scope to be adaptive is advanced as capturing the explorative aspect of ambidexterity (He and Wong, 2004; O’Reilly and Tushman, 2004, 2007; March, 1991) and its responsiveness to

external change (Doz and Prahalad, 1984). Whilst the previous construct of alignment encompasses the subsidiary's potential exploitative paths, adaption is intended to reflect and capture a longer term perspective where the subsidiary operates outside the boundaries of its charter in seeking new opportunities.

The subsidiary initiative literature (Birkinshaw, 1997; Birkinshaw, Hood and Jonsson, 1998; Delany, 2000, Frost, Birkinshaw and Ensign, 2002; Lee and Williams, 2007) maintains that merely doing what the parent dictates will not ensure sustainability or survival; the subsidiary needs to add value to the MNC. It is at this point that the dynamic capabilities perspective is advanced as being particularly relevant as it encompasses an organisations ability to modify and adapt its resource base in accordance with external change (Teece, 2007; Teece and Pisano, 1994; Teece, Pisano and Shuen, 1997).

Comprising of the technological, organisational and managerial processes that firms leverage to achieve competitive advantage, dynamic capabilities continuously integrate knowledge in developing new organisational capabilities (Jacobides and Winter 2005). With the scope of utilising current resources whilst simultaneously adapting, integrating and developing new areas of competencies the framework provides an ample foundation for understanding the necessity of adaption.

Following from this the first element of a subsidiary's behavioural context discussed is their ability to absorb and integrate new knowledge. This ability to learn, to assimilate new knowledge, and adapt it in accordance with ones own requirements or in the pursual of an identified opportunity has been referred to as *absorptive capacity* (Cohen and Levinthal, 1990; Lane and Lubatkin, 1998) and more recently as dynamic capability (Zahra and George, 2002). An organisations absorptive capacity encapsulates their ability to learn, to take in new knowledge, and adapt it in accordance with their own requirements or in the pursual of an identified opportunity (Cohen and Levinthal, 1990); Lane and Lubatkin, 1998) Whilst Cohen and Levinthal's (1990) seminal work continues to influence much research on knowledge transfer and organisational learning its broader application to theory on subsidiaries remains confined by its focus at the firm level. It is argued that in applying this concept to

the subsidiary context the shared and uniform characteristics of the MNC offers a rich environment for an analysis of the impact of absorptive capacity on a subsidiary's flexibility and ultimately their capacity to be ambidextrous. In recognising the changing structures inherent in the modern MNC it is argued 'firms are increasingly relying on knowledge acquired from other firms to facilitate the development of their own capabilities' (Lane and Lubatkin, 1998, p. 473). It is held that greater assimilation, transformation and exploitation of knowledge facilitates greater flexibility (Ambrosini and Bowman, 2009). With increased flexibility the subsidiary is less confined by their own project trajectories but can also leverage the collective knowledge dispersed within the MNC network. The potential scope for strategic renewal and adaption is therefore enhanced through incorporating these additional sources of external knowledge and again illustrates the interplay between the behavioural context and elements of the structural context such as integrating mechanisms and interdependencies.

As another knowledge based capability, scanning intensity facilitates opportunity recognition through providing the subsidiary with relevant information about changing events and trends within their environment (Barringer and Bluedorn, 1999; Bluedorn et al., 1994). In facilitating opportunity recognition, the scanning of emerging events and trends can be credited with ensuring a greater responsiveness to external change and market orientation (Kohli and Jaworski, 1990; Menon et al.1990). Information gathered can then be assessed and utilised in the pursual of opportunities or in the modification of the subsidiary's capabilities.

In considering the role of network linkages and in acknowledging how each subsidiary is 'differentially exposed to new knowledge, ideas and opportunities' (Andersson, Forsgren and Holm 2002, p. 979) it is argued that scanning intensity may also play a significant role in shaping adaptive subsidiary behaviour.

Interaction of Alignment and Adaption

Both alignment and adaption have been discussed in relative isolation yet it is the interaction of these two constructs which forms the foundations of ambidexterity (Duncan , 1976; Gibson and Birkinshaw, 2004). It is therefore prudent to point out that the pursual of either alignment or adaption

is not necessarily a mutually exclusive one. In illustrating this interaction it is upheld that the scope to build ambidexterity is largely contingent upon the flexibility by which the organisation can conduct their operations (Adler, Goldoftas and Levine, 1999; Gibson and Birkinshaw, 2004; O'Reilly and Tushman, 2004). The concept of strategic flexibility denotes an organisations ability to respond to changing market conditions and emerging trends in their external environment (Sanchez, 1995; Worren, Moore and Cardona, 2002). In acknowledging how exploration is facilitated through flexibility, decentralization, and loose cultures (Jansen, Vera and Crossan, 2009) the impact and magnitude of hierarchical structures and how this impacts upon the subsidiary's flexibility warrants further attention. Strategic flexibility as an adaptive construct 'emphasises the flexible use of resources and reconfiguration of processes, it reflects one type of dynamic capability that enables firms to achieve a competitive advantage in turbulent markets' (Zhou and Wu 2010, p. 548). The flexible use of resources also supports new project trajectories increasing the firm's potential for developing explorative innovation (Matthyssens, Pauwels and Vandenbembt, 2005). In accordance, it is arguably this flexibility which enables a subsidiary to pursue explorative opportunities; a central characteristic of building ambidexterity.

Yet the relative flexibility by which a subsidiary can pursue opportunities - stretching beyond their immediate mandate, is typically determined by headquarters on the basis of resource flexibility and resource coordination (Zhou and Wu, 2010). It is therefore apparent that strategic flexibility, a central antecedent of ambidexterity, is a product of both the structural context and the subsidiary's adaptive capacities.

Similarly, a strong leadership role of top subsidiary management in building ambidexterity is a crucial one and cannot be categorised as merely maintaining alignment or driving adaption as the role straddles the two. A strong leadership role in subsidiary top management has been found to be positively related to both initiative and the development of specialised resources (Birkinshaw and Hood and Jonsson, 1998). The role therefore goes beyond maintaining alignment through reporting mechanisms and suggests the key role of management in the development and modification of its resources.

Is Ambidexterity linked to Subsidiary Bargaining Power?

In contributing to current theory it is proposed that there is a positive relationship between a subsidiary's capacity to be ambidextrous and the concurrent bargaining power which they can enjoy within the MNC. We argue that an analysis of subsidiary bargaining power is inextricably linked to the structural and behavioural contexts in which the subsidiary operates and engages with.

Further, we propose that middle managers play a vital role in this relationship. At the operational level middle management can foster adaption through implementing change through initiatives (Balogun, 2003), but it is their unique position to also liaise with top management which is of paramount importance. As facilitators of change middle managers are; 'recipients of change, as much as its implementers' (Balogun and Johnson 2004, p. 523) and therefore their contributory role to both alignment and adaption warrants greater attention.

A discussion of subsidiary bargaining power follows, set within the context of the current challenges and changes facing the modern MNC and in exploring how subsidiary management can ultimately leverage their capabilities in meeting these challenges.

SUBSIDIARY BARGAINING POWER

The past two decades have seen significant changes in how the MNC is conceptualised. Increased dispersion of activities, resources and competencies has changed the way we view the traditional MNC structure (Andersson, Forsgren and Holm, 2007). This transition has prompted a move from conceptualising the subsidiary as a site for traditional downstream activities within a unitary organisation towards acknowledging subsidiary specific roles encompassing such upstream activities as research and development and support activities (Andersson, Forsgren and Holm, 2002; 2007; Ghoshal and Bartlett, 1988; Cantwell, 1995; Gupta and Govindarajan, 1991; Mudambi and Navarra, 2004). The emergence and recognition of the subsidiary as a site for innovation further emphasises the changing roles apparent in the modern MNC (Frost, Birkinshaw and Ensign, 2002). A central facet in

this reconceptualisation is the assertion that the subsidiary, through its initiatives and idiosyncratic capabilities, can influence strategy ‘from below’ (Andersson, Forsgren and Holm, 2007).

A more active and profound role of the subsidiary is likely to impact upon the distribution of power within the MNC structure where; ‘the subsidiary – for its part – is interested in enhancing its own standing within the MNE network and increasing its degrees of freedom in decision making’ (Ambos, Anderson and Birkinshaw 2010, p. 02). Interorganisational power, the determinants of this power and how it is dispersed within the organisation therefore becomes a critical area of interest and constitutes a central debate within the subsidiary literature.

Significant support for the capacity of a subsidiary to exert influence through the leveraging of distinct and valuable competencies is also emerging. Research by Birkinshaw (1996) established a positive relationship between a subsidiary’s proven capabilities and their potential for gaining future mandates, similarly initiative taking was positively associated with a subsidiary’s voice and profile building (Bouquet and Birkinshaw, 2008). Ambos, Andersson and Birkinshaw’s (2010) research holds that subsidiary initiatives had a direct result on the attention gained from headquarters, whilst Mudambi and Navarra (2004) found that the subsidiary capable of leveraging knowledge flows could gain significant power within the MNC.

It is in accord with this growing consensus of how increased subsidiary responsibilities; ‘have loosened the traditional hierarchical structure of MNC governance’ (Mudambi and Navarra 2004, p. 386) which informs the research approach taken in this paper. Examining how subsidiary power structures are shaped and leveraged is at the crux of this agenda. The subsidiary literature suggests the need for subsidiary managers to firstly build capabilities which can be leveraged, whilst simultaneously maintaining their provisional mandates in providing value to headquarters. Essentially a dual process, this places pressure on subsidiary managers to remain adaptive and responsive to change whilst also maintaining alignment with current strategic objectives. Tackling these seemingly adverse goals by synthesizing opposing processes; ‘is key to understanding why a firm can be more

efficient at producing knowledge than market' and captures the dynamic nature of ambidexterity (Nonaka and Toyama 2002, p. 995).

RESEARCH DESIGN AND SETTINGS

At the crux of the research agenda is the need to expand upon our understanding of the interaction between subsidiary middle and senior management in the pursual of alignment and adaptive strategies. Examining how change was adopted and incorporated into strategy required in-depth discussions with respondents at both these hierarchical levels, not only to gain richer insights; but also to triangulate potential findings. This was beyond the scope of adopting survey instruments and prompted the use of an inductive, multiple case study research design (Eisenhardt, 1989; Santos and Eisenhardt, 2009). The research context concentrates on subsidiaries, and in particular, on aspects of alignment, therefore a *contextualised explanation* provides the basis for theorising from the case data. That is, the context is highly integrated into the explanation, and the focus is on specifying the causal mechanisms employed and the contextual conditions under which they operate (Welch et al, 2010).

Case studies as an appropriate method in evaluation research allows us 'to *explain* the presumed causal links in real-life interventions that are too complex for the survey or experimental strategies' (Yin, 2009: 19). A research agenda involving change and causality therefore supports an in-depth study of the 'individual agents in their causal contexts' (Sayer, 1992: 243). Given that organisational contexts are not only diverse but also acknowledging how dynamic capabilities are potentially equifinal (Eisenhardt and Martin, 2000; Zahra and George, 2002) a multiple case study design was adopted. This approach was taken to increase external validity and for potential findings to be better grounded and theoretically transferable (Eisenhardt, 1989, 1991). The research design undertaken used multiple interviews with subsidiary middle management, triangulated by interviews with

top management, expert informants, and company archival data. The primary source was semistructured interviews with individual respondents.

Guiding the rationale for choosing middle management is the objective of examining capability development at the operational levels and to explore how change and adaptation is adopted and incorporated into strategy. The unique role of middle managers as mediators between strategy and operations (Nonaka, 1994) is a crucial one, and one that has been largely overlooked within the subsidiary literature (Balogun, 2003). The potential for middle management to utilise this unique position, and to implement change through initiatives is supported in the findings of Balogun and Johnson (2004). In their study they found that as resources become more decentralised the role of middle management becomes increasingly elevated as they become; 'recipients of change, as much as its implementers' (2004, p. 523). The middle manager role is further exacerbated given their increased responsibilities as senior management struggle with increasingly complex and dispersed organisations (Wooldridge, Schmid and Floyd, 2008). Examining how change is adopted and implemented therefore supports an active middle management role and guides the research design.

A need to also interview top management became apparent during the initial data collection stage and is discussed in the subsequent findings section. In acknowledging how respondents at the senior level, given their experience, are most knowledgeable informants in terms of organisational strategy, structure and performance (Hambrick, 1981) these interviews were used in verifying or refuting the responses of middle management and in triangulating the results.

The research setting adopted was foreign-owned subsidiaries within the Information and Communication Technologies (ICT) sector. The ICT sector characterised as a fast-moving business environment is not only open to global competition but also to dispersed sources of geographical and

organisational sources of innovation; providing a model platform for exploring dynamic capabilities (Teece, 2007). The decision to concentrate on subsidiaries within one industry was taken to reduce extraneous variation which could unnecessarily skew the data. By concentrating on one sector it was felt a greater cross-case analysis would be afforded. It also allows us to clarify whether emergent findings are idiosyncratic to an individual case or consistently replicated across cases (Eisenhardt, 1991; Eisenhardt and Graebner, 2007). In accordance, the sampling of cases was based on theoretical sampling which facilitates replication, contrary replication and the elimination of alternative explanations (Yin, 2009).

Two organisations were sampled, across three sites; reflecting the initial stage of a broader sample to be implemented. In both organisations access was secured with both middle management and either the top management team or senior management/directors. These respondents consisted of a total of six middle managers and three members of senior management.

FINDINGS

The following section illustrates some key findings. The concept of ambidexterity (Duncan, 1976; Gibson and Birkinshaw, 2004) and the interaction between alignment and adaptive processes is addressed with illustrative examples. Subsequent sections address both the middle manager role in this process and the potential relationship between ambidexterity and subsidiary bargaining power.

Interaction of Alignment and Adaption

The conflicting goals of maintaining alignment with current goals whilst simultaneously recognising when and where change was needed was cited as a concern among many of the managers interviewed. Alignment was typically conceptualised among middle management as adherence to quarterly or yearly goals and ultimately in delivering upon those pre-

determined goals. It was only at the point where they delivered upon these objectives that they could push initiatives or drive adaptive routines. This was evident with interviewee (A):

You have to build your strategy, your missions and your visions, ...changing those and going back to them each time, or every time you have a cycle on a yearly basis to align. This is where we're going on this area and re-communicating it; we said we would do this, we've done this and we're going to continue on this road. What's the next thing? Because if you go back to the product cycle you can be the best in the world at this point, but there's a downward trend afterwards. So have the competence to jump on

The scope for subsidiaries to build their adaptive capacity was often quite limited. This may be attributed to underlying tensions in the principal – agent relationship, as headquarters become increasingly weary of the subsidiary acting in their own best interests (Eisenhardt, 1989). Some respondents claimed that adaption was incorporated slowly, through incremental change and through using and leveraging their historical progress and capabilities to guide their future project trajectories. Respondent (H) discusses how their site managed to continuously leverage their capabilities in an iterative manner whilst simultaneously maintaining alignment with headquarters;

If we had a history of four or five big projects that have been getting better and better then the headquarters are going to look at the UK and Ireland because we are relatively successful, and they are going to look at that and say, 'well look, that does work, so maybe that is something we're going to focus on', but you are a little restricted in that they do want you to follow their pattern, but if they see progress, if they see project B being better than project A, and project C being better again then they'll go with that

What is particularly interesting in this response is that it is suggestive of the cyclical nature of capability development on site (Helfat and Peteraf, 2003). Further, it illustrates the potential longevity of operations through iterative and adaptive processes. Again illustrating how they leveraged their resource base the same respondent reflected;

That is how we grow I suppose, by using the projects that we've already worked on, so I would say we tend to focus on the technologies we're already good at, the technologies we've used and try to gain more expertise in them

Similarly respondent (E) stressed the importance of 'maintaining the mandate and continuing to get more accountability'. How they managed to get more accountability is of particular interest; if historical performance led to an increase in resource accessibility it points again to a cyclical model of capability development. Like a virtuous circle, it is a subsidiary which has proven their ability on previous tasks that is then most likely to gain future mandates and the corresponding resources. Historical performance and the tacit knowledge deep-rooted in a subsidiary's capabilities may arguably allow them to conciliate alignment concerns with headquarters and provide them with the scope to pursue opportunities through adaptive strategies.

The need for adaptive routines and the recognition that 'every process has a lifecycle' was a well acknowledged by middle management. An emphasis on the subsidiary's ability to adapt and implement incremental improvements was considered all the more important as many effectively found their hands tied on other competitive differentials; notably the procurement of government grants, high insurance costs and high wages.

In ascertaining how competing sister subsidiaries could avail of some, or all, of these competitive advantages, respondents claimed it accentuated the onus on them to build adaptive capabilities as a differential. Some managers referred to adaptation as a 'sense of urgency' citing the need for continuous improvements through the modification of existing capabilities. This sentiment was made evident by middle manager (E) whose experience working within his organisation spans in excess of fourteen years, 'the common business environment at the minute is obviously moving to low cost so you have to be always looking for something to add, to bring to the party I suppose'. An onus to add value above and

beyond their mandated role was similarly stressed by other respondents, notably middle manager (B) contending; 'the add-ons are what I think differentiates us as a site, it's the things we do around the peripherals... it's the different R&D efforts we get involved in'. It became evident that maintaining the status quo was clearly not enough. Whilst the assertion that capability development, adaption and the dextrous use of resources will serve as a relative subsidiary differential we have yet to address issuing pertaining to the subsidiary's ability to exert influence within the wider organisation. The subsequent findings section addresses this, illustrating a potential relationship between a subsidiary's ability to be ambidextrous and the concurrent bargaining power they may acquire.

Subsidiary Bargaining Power

Interviewing middle management in examining aspects of bargaining power yielded only limited information. The extent to which the subsidiary could, if at all, exert influence within the greater organisation proved difficult in determining despite the probing of respondents. Initial interviews with middle management indicated they were either reluctant or unqualified to discuss issues of subsidiary bargaining. In addition any discussion of opportunistic or rent-seeking behaviour was largely circumvented in favour of discussing a more holistic view of a largely integrated global organisation. Middle management did however consistently refer to an active role of the plant manager in promoting the site and gaining recognition for innovative achievements on site. The findings suggest that whilst adaption was often prompted and implemented by middle management it was solely senior management and top management teams responsible for maintaining alignment whilst simultaneously building enough power to exert influence.

An active role of the plant manager in potentially *selling* the site was frequently referred to by middle management. An illustrative example of building greater bargaining power is explicit

in the discussion of interviewee (B) who discusses an active role of the plant manager and the concurrent structural changes. This middle manager also identifies the restrictions on adaptive behaviour which the subsidiary must overcome;

He grew the capability and kept it under the radar until such a time as he could go to corporate and it was just something that they couldn't say no to. That was a powerful case coming out from this site, the recent org change is testament to this... he certainly pushes the site and I've often seen him commit to something before we know we can do it and push us that way

It is interesting that interviewee (A), from a separate organisation similarly stressed the importance of 'marketing your capabilities in the right way' as did a number of the other respondents. The implications of going beyond their mandated role and adding value was credited with gaining greater responsibilities;

Once you can show you can deliver on that basic mandate you can then look for more and more accountability... I think the site here would be well perceived strategically in the wider organisation... throughout the years every additional technology we get is a recognition of how we've performed on the previous technology (Middle Manager, E)

Perhaps the most revealing discussion on the active role played by senior management came from respondent (B) who suggested the inherent subtleties involved; 'it's not a strategy that's written down somewhere, it's a little bit more tacit and less explicit'.

Knowledge as Bargaining Power?

Finally Mudambi and Navarra's (2004) assertion that knowledge can serve as a differential in subsidiary bargaining power is supported. Despite the majority of respondents claiming that knowledge accessibility was quite open there was still evidence of subsidiaries protecting their knowledge from sister subsidiaries. Whilst knowledge sharing was said to be promoted across all the sites it often amounted to very little in practical terms, respondent (H) captures this sentiment;

We talk about it locally and how we could do that and we'd write up our own documentation and things like that but really in terms of a process, if you look at the whole company of (x), us sending a few documents doesn't really improve the process and I don't think as a subsidiary we do

There was also potential barriers to knowledge, most notably the protecting of local knowledge which could be leveraged. Discussing knowledge sharing with sister subsidiaries prompted the following response from interviewee (E);

Trust was a factor, the level of information sharing would have been affected, informally everyone would acknowledge that, and it takes a while I suppose to get over that and it may be there to some extent, but it's more collaborative now

In a similar manner another middle manager, interviewee (F) contended that; 'ideas probably aren't shared as open as they could be because there's a bit of guarding until someone can get the fruits of their labour'. The assertion that subsidiaries may engage in creating barriers to knowledge sharing, in protecting their own interests, also supports the recent shift to conceptualising the MNC as a federative structure (Andersson, Forsgren and Holm, 2007 p.803) as subsidiaries engage in a 'perpetual bargaining process'.

DISCUSSION

It has been discussed how a subsidiary which is capable maintaining alignment with parent concerns whilst simultaneously renewing their resource base through adaptive strategies can leverage their position in insulating themselves to some extent from mandate loss. For subsidiary managers this presents a potential vehicle by which they can enhance their position through actively shaping a sustainable future for themselves within the MNC structure. This favoured position, it is argued, is largely dependent on their ability to be ambidextrous.

This capacity to exert this influence may further impact upon their ability to negotiate for future resources and points towards a cyclical process. This has implications not just on the immediate longevity of operations but also for capability based sustainability in the subsidiary context.

The adaption and modification of the resource base is firmly the responsibility of middle management implementing a mediator role between operations and strategy. In contrast, senior management are accredited with playing a dual role, maintaining alignment with the objectives of the parent whilst also driving bargaining power through actively *selling* the site and gaining recognition for local initiatives.

The withholding of knowledge as a potential ‘bargaining chip’ is also supported in accord with the findings of Mudambi and Navarra (2004) who similarly found that the protecting of knowledge was indicative of rent seeking behaviour in the MNC and a source of greater bargaining power.

Further avenues of research could incorporate the headquarters perspective; in examining if subsidiary bargaining power created through ambidexterity creates an effective barrier to knowledge sharing within the MNC. If such a scenario is likely to impede knowledge flows within the MNC, what internal processes can be utilised in mitigating this safeguarding of power? In addition, further research is also warranted in examining the relationship between subsidiary ambidexterity and strategic learning and performance.

References

- Adler, Paul S., Barbara Goldoftas, & David I. Levine (1999), "Flexibility versus Efficiency? A Case Study of Model Changeovers in the Toyota Production System" *Organization Science*, 10 (1), 43-68
- Ambos, Tina C., Ulf Andersson and Julian Birkinshaw (2010), "What are the Consequences of Initiative-Taking in Multinational Subsidiaries," *Journal of International Business Studies*, 41 (7), 1099-1118
- Ambrosini, Véronique and Cliff Bowman (2009), "What are Dynamic Capabilities and are They a Useful Construct in Strategic Management," *International Journal of Management Reviews*, 11 (1), 29-49
- Ambrosini, Véronique, Cliff Bowman and Nardine Collier (2009), "Dynamic Capabilities: An Exploration of How Firms Renew their Resource Base," *British Journal of Management*, 20 (s1), S9-S24
- Andersson, Ulf, Ingmar Björkman, and Mats Forsgren (2005) "Managing subsidiary knowledge creation: The effect of control mechanisms on subsidiary local embeddedness." *International Business Review*, 14 (5), 521-38
- Andersson, Ulf and Mats Forsgren (1996), "Subsidiary embeddedness and control in the multinational corporation," *International Business Review*, 5 (5) 487-508
- Andersson, Ulf, Mats Forsgren, & Ulf Holm (2002) "The Strategic Impact of External Networks: Subsidiary Performance and Competence Development in the Multinational Corporation," *Strategic Management Journal*, 23(11) 979-96.
- Andersson, Ulf, Mats Forsgren, and Ulf Holm. 2007, "Balancing subsidiary influence in the federative MNC: a business network view," *Journal of International Business Studies*, 38(5): 802-18
- Balogun, Julia (2003), "From Blaming the Middle to Harnessing its Potential: Creating Change Intermediaries," *British Journal of Management*, 14 (1): 69-83
- Balogun, Julia and Gerry Johnson (2004), "Organizational restructuring and middle management sensemaking," *Academy of Management Journal*, 47 (4), 523-49
- Barney, Jay (1991), "Firm Resources and Sustained Competitive Advantage," *Journal of Management* 17 (1), 99
- Barney, Jay (1995), "Looking inside for Competitive Advantage," *The Academy of Management Executive* (1993) 9(4): 49-61
- Barringer, Bruce R. and Allen C. Bluedorn (1999), "The Relationship between Corporate Entrepreneurship and Strategic Management," *Strategic Management Journal*, 20 (5) 421-444
- Birkinshaw, Julian (1996), "How Multinational Subsidiary Mandates Are Gained and Lost," *Journal of International Business Studies*, 27 (3), 467-495
- Birkinshaw, Julian, Neil Hood and Stefan Jonsson (1998), "Building Firm-Specific Advantages in Multinational Corporations: The Role of Subsidiary Initiative," *Strategic Management Journal*, 19 (3), 221-241

- Bluedorn, Allen C., Richard A. Johnson, Debra K. Cartwright, & Bruce R. Barringer (1994), "The interface and convergence of the strategic management and organizational environment domains" *Journal of Management*, 20 (2), 201-62
- Bouquet, Cyril and Julian Birkinshaw (2008), "Weight Versus Voice: How Foreign Subsidiaries gain attention from Corporate Headquarters", *Academy of Management Journal*, 51 (3), 577-601
- Burgelman, Robert A (1983) "A Model of the Interaction of Strategic Behavior, Corporate Context, and the Concept of Strategy," *Academy of Management Review*, 8 (1), 61-70
- Cantwell, John (1995), "The globalisation of technology: what remains of the product cycle model?," *Cambridge Journal of Economics*, 19 (1), 155-74.
- Cohen, Wesley M., and Daniel A. Levinthal (1990), "Absorptive Capacity: A New Perspective on Learning and Innovation," *Administrative Science Quarterly*, 35 (1), 128-152
- Delany, Ed (2000), "Strategic development of the multinational subsidiary through subsidiary initiative-taking," *Long Range Planning*, 33 (2) 220-44.
- Doz, Yves L., and C.K Prahalad (1991), "Managing DMNCs: A search for a new paradigm," *Strategic Management Journal*, 12 (S1), 145-164
- Duncan, Robert (1976), "The Ambidextrous Organisation: Designing dual structures for innovation," in *The management of Organization*, R.H. Kilman, L.R. Pondy and D. Slevin (Eds). New York: north-Holland, 167-188
- Eisenhardt, Kathleen M (1989) "Agency Theory: An Assessment and Review," *The Academy of Management Review*, 14 (1), 57-74
- Eisenhardt, Kathleen M. (1991) "Better Stories and Better Constructs: The Case for Rigor and Comparative Logic." *The Academy of Management Review*, 16 (3), 620-27.
- Eisenhardt, Kathleen M. & Melissa E. Graebner. (2007) "THEORY BUILDING FROM CASES: OPPORTUNITIES AND CHALLENGES." *Academy of Management Journal*, 50 (1), 25-32.
- Eisenhardt, Kathleen M. and Jeffrey A. Martin (2000), "Dynamic capabilities: what are they?," *Strategic Management Journal*, 21 (10-11), 1105-1121
- Frost, Tony S., Julian Birkinshaw and Prescott C. Ensign (2002), "Centers of Excellence in Multinational Corporations," *Strategic Management Journal* 23 (11), 997-1018
- Gibson, Cristina, B. and Julian Birkinshaw (2004), "The Antecedents, Consequences, and Mediating Role of Organizational Ambidexterity," *Academy of Management Journal* 7 (2), 209-226
- Ghoshal, Sumantra and Christopher A. Bartlett (1988), "Creation, Adoption, and Diffusion of Innovations by Subsidiaries of Multinational Corporations," *Journal of International Business Studies*, 19 (3), 365-38
- Gupta, Anil K., and Vijay Govindarajan (1991), "Knowledge Flows and the Structure Of Control Within Multinational Corporations," *Academy of Management Review*, 16 (4), 768-792
- Hambrick, Donald C. (1981), "Environment, Strategy, and Power Within Top Management Teams," *Administrative Science Quarterly*, 26 (2), 253-75.

- He, Zi-Lin and Poh-Kam Wong (2004), "Exploration vs. Exploitation: An Empirical Test of the Ambidexterity Hypothesis," *Organization Science*, 15 (4) 481-94.
- Hedlund, G (1980), "The role of foreign subsidiaries in strategic decision-making in Swedish multinational corporations" *Strategic Management Journal*, 1 (1), 23-36
- Helfat, C. E., Finkelstein, S., Mitchell, W., Peteraf, M. A., Singh, H., Teece, D. A and Winter, S. G (2007), *Dynamic Capabilities: Understanding Strategic Change In Organisations*. Blackwell Publishing
- Helfat, Constance E., and Margaret A. Peteraf (2003), "The dynamic resource-based view: capability lifecycles," *Strategic Management Journal*, 24 (10), 997-1010
- Jacobides, Michael G., and Sidney G. Winter (2005), "The co-evolution of capabilities and transaction cost: explaining the institutional structure of production," *Strategic Management Journal*, 26 (5), 395-413
- Jansen, Justin J. P., Dusya Vera, and Mary Crossan (2009), "Strategic leadership for exploration and exploitation: The moderating role of environmental dynamism" *The Leadership Quarterly*, 20 (1), 5-18.
- Kohli, Ajay K. and Bernard J. Jaworski (1990), "Market Orientation: The Construct, Research Propositions, and Managerial Implications," *Journal of Marketing*, 54 (2) 1-18.
- Lane, Peter J., and Michael Lubatkin (1998), "Relative Absorptive Capacity and Interorganizational Learning," *Strategic Management Journal*, 19 (5), 461-477
- Lee, Soo H., and Christopher Williams (2007), "Dispersed entrepreneurship within multinational corporations: A community perspective," *Journal of World Business*, 42 (4), 505-519
- March, James G. (1991), "Exploration and Exploitation in Organizational Learning," *Organization Science*, 2 (1), 71-87
- Matthyssens, Paul, Pieter Pauwels, and Koen Vandenbempt (2005), "Strategic flexibility, rigidity and barriers to the development of absorptive capacity in business markets: Themes and research perspectives" *Industrial Marketing Management*, 34 (6), 547-54.
- Menon, Anil, Sundar G. Bharadwaj, Phani Tej Adidam, & Steven W. Edison (1999) "Antecedents and Consequences of Marketing Strategy Making: A Model and a Test" *The Journal of Marketing*, 63 (2) 18-40
- Mudambi, Ram and Pietro Navarra (2004), "Is Knowledge Power? Knowledge Flows, Subsidiary Power and Rent-Seeking within MNCs," *Journal of International Business Studies* 35 (5), 385-406
- Newey, Lance. R., and Shaker A Zahra (2009) "The Evolving Firm: How Dynamic and Operating Capabilities Interact to Enable Entrepreneurship," *British Journal of Management* 20(s1), S81-S100
- Nonaka, Ikujiro (1994), "A Dynamic Theory of Organizational Knowledge Creation," *Organization Science*, 5 (1), 14-37
- Nonaka, Ikujiro and Ryoko Toyama (2002) "A firm as a dialectical being: towards a dynamic theory of a firm" *Ind Corp Change*, 11 (5), 995-1009.
- O'Donnell, Sharon W. (2000), "Managing Foreign Subsidiaries: Agents of Headquarters, or an Interdependent Network?," *Strategic Management Journal*, 21 (5), 525-548

- O'Reilly, Charles A., and Michael L. Tushman (2004), "The Ambidextrous Organization," *Harvard Business Review*, 82 (4) 74-81
- O'Reilly, Charles A., and Michael L. Tushman (2007), "Ambidexterity as a dynamic capability: Resolving the innovators dilemma," working paper, Cambridge MA, Harvard Business School
- Mahoney, Joseph T., and J. Rajendran Pandian. (1992) "The Resource-Based View Within the Conversation of Strategic Management," *Strategic Management Journal*, 13 (5), 363-80.
- Peteraf, Margaret A (1993) "The Cornerstones of Competitive Advantage: A Resource-Based View," *Strategic Management Journal*, 14 (3), 179-91
- Priem, Richard L., and John E. Butler (2001a) "Is the Resource-Based "View" a Useful Perspective for Strategic Management Research?," *The Academy of Management Review*, 26 (1), 22-40
- Priem, Richard L., and John E. Butler (2001b) "Tautology in the Resource-Based View and the Implications of Externally Determined Resource Value: Further Comments," *The Academy of Management Review*, 26 (1), 57-66.
- Raisch, Sebastian and Julian M. Birkinshaw. (2008), "Organizational Ambidexterity: Antecedents, Outcomes, and Moderators," *Journal of Management*, 34 (3), 375-409
- Sanchez, Ron (1995), "Strategic Flexibility in Product Competition" *Strategic Management Journal*, 16 (S1), 135-59.
- Santos, Filipe M. & Kathleen M. Eisenhardt. (2009) "CONSTRUCTING MARKETS AND SHAPING BOUNDARIES: ENTREPRENEURIAL POWER IN NASCENT FIELDS." *Academy of Management Journal*, 52 (4), 643-71.
- Sayer, A. (1992) *Method in social science: A realist approach*, 2nd ed. London: Routledge.
- Scott, Pamela, Patrick Gibbons, and Joseph Coughlan (2010) "Developing subsidiary contribution to the MNC--Subsidiary entrepreneurship and strategy creativity," *Journal of International Management*, 16 (4), 328-39.
- Szulanski, G (1996), "Exploring Internal Stickiness: Impediments to the Transfer of Best Practice Within the Firm," *Strategic Management Journal*, 17 (s), 27-43
- Teece, David J. (2007), "Explicating dynamic capabilities: the nature and microfoundations of (sustainable) enterprise performance," *Strategic Management Journal*, 28 (13), 1319-1350
- Teece, David J., and Gary Pisano (1994), "The Dynamic Capabilities of Enterprises: An Introduction," *Industrial and Corporate Change*, 3 (3), 537-556
- Teece, David J., Gary Pisano and Amy Shuen (1997), "Dynamic capabilities and strategic management," *Strategic Management Journal*, 18 (7), 509-533
- Tushman, Micheal L., and Charles A. O'Reilly (1996), "Ambidextrous Organizations: MANAGING EVOLUTIONARY AND REVOLUTIONARY CHANGE" *California Management Review*, 38 (4) 8-30

Tsai, Wenpin (2001), "Knowledge Transfer in Intraorganizational Networks: Effects of Network Position and Absorptive Capacity on Business Unit Innovation and Performance," *The Academy of Management Journal*, 44 (5), 996-1004

Welch, Catherine, Rebecca Piekkari, Emmanuella Plakoyiannaki, and Eriikka Paavilainen-Mantymaki (forthcoming) "Theorising from case studies: Towards a pluralist future for international business research" *Journal of International Business Studies*

Wernerfelt, Birger (1984) "A Resource-Based View of the Firm" *Strategic Management Journal*, 5 (2), 171-80

Wooldridge, Bill, Torsten Schmid, and Steven W. Floyd (2008) "The Middle Management Perspective on Strategy Process: Contributions, Synthesis, and Future Research," *Journal of Management*, 34 (6), 1190-221.

Worren, Nicolay, Karl Moore, and Pablo Cardona (2002), "Modularity, Strategic Flexibility, and Firm Performance: A Study of the Home Appliance Industry," *Strategic Management Journal*, 23 (12), 1123-40

Yin, Robert, K (2009) *Case Study Research: Design and Methods*, 4th ed, London Sage

Zaheer, Akbar & Geoffrey G. Bell (2005), "Benefiting from network position: firm capabilities, structural holes, and performance," *Strategic Management Journal*, 26 (9) 809-25

Zahra, Shaker A., and Gerard George (2002), "Absorptive Capacity: A Review, Reconceptualization, and Extension," *The Academy of Management Review*, 27 (2), 185-203

Zhou, Kevin. Z., and Fang. Wu (2010) "Technological capability, strategic flexibility, and product innovation," *Strategic Management Journal*, 31 (5), 547-61.