The Efficacy of Linkages for Relational Capability Building and Internationalization—Indian and Australian Mining Firms

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Abstract

This research explores the significance of linkages in building relational capability between Australian and Indian mining firms which lead to new international opportunities. Building upon knowledge-based and network views, this qualitative study presents the “The Relational Capability-Linkages Model.”

Key words: competency; mining industry; networks; relational capability; services

JEL classification: F00

1. Introduction

With the increasing importance of services to Australia’s overall export performance, this research study focuses on the mining service firms and examines ways in which these firms can leverage inter-firm linkages with other Australian firms operating locally and overseas, specifically India, for enhanced internationalization.

Foreign subsidiaries have access to a variety of external knowledge and develop new competences themselves; by sharing this knowledge with the parent company and other units within the network, they contribute to the creation of the firms’ competitive advantages (Ambos et al., 2006; Ghoshal et al., 1994; Håkanson and Nobel, 2001) in (Najafi-Tavani et al., 2012).

Preceding research has investigated the relationship between networks and relational capability building in small and medium-sized enterprises (SMEs) (O’Toole and McGrath, 2008). Further, a longitudinal study in the context of Australian manufacturing by Chetty et al. (2004) sheds light on how a

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manufacturing firm’s business network influences its internationalization strategy, but falls short of exploring the role of relational capability building and its impact on firm internationalization. In this developing area of specialization, research conducted to date is indeed meagre, and a systematic description of the relationship between international inter-firm linkages leading to relational capability building which further results in enhanced internationalization is lacking. This study explicitly looks at this relationship between inter-firm linkages, relational capability, and internationalization in the Australian mining industry.

In this framework we aim to explore the efficacy of relational capability building through linkages resulting in an increase in internationalization activities for Australian and Indian mining firms through new modes. This research hopes to contribute distinctively to the international business literature by positively influencing the process of internationalization.

This research is also timely as the rising Australian dollar is bound to impact export performance, in both material products and service, wherein export performance has been defined as the firm’s outcome achieved through international sales (Shoham, 1998). For this research, export performance has been interchangeably used as internationalization.

Using qualitative research, a new conceptual model “The Relational Capability-Linkages Model” is developed by synthesizing two theoretical strands, namely the actor-network theory (Callon and Latour, 1992) and the relational capability theory (Birley et al., 1991, p. 58).

The remainder of the paper is structured as follows. First, we present the significance of the research and the aims and research questions. Then we embark on a literature review of network effects in the context of internationalization of firms and the rationale for inter-firm linkages with India and network strategies for internationalization and their effects. Subsequently, the conceptual framework and justification of the research hypothesis is followed by an overview of the research design and methodology, research analysis, and results. Finally, conclusions are drawn with relevance to managers and policymakers, and limitations of the study and suggestions for future research are identified.

Why focus on India as a partner for inter-firm linkage? Although India is a resource-rich country, it is deficient in operational methods used to evaluate resources, and it currently utilizes outdated mining technology. Many resource-rich areas in the country remain unexplored and unexploited. Australia is well known for its sophisticated mining technology, and currently over 60% of the world’s mines use Australian software services. They can contribute to the Indian mining scene through their capabilities in mine management systems and equipment and services for underground mining to improve mining production, coal washing, and general technology.

On the other hand, Australia needs investment from India in the mining sector. There are two reasons for this:

a) The first reason relates to human resource limitations. Australia is a huge country, rich in minerals iron, bauxite, uranium, and coal, but there is a lack of
human resources to mine its natural resources.

b) The second reason is the geo-political implications. The Chinese were welcomed in the early 1980s to set up mining facilities in Australia, which over time lead to an overdependence on the Chinese. Australia now needs India for a countervailing influence on China.

Moreover, service firms globally are deliberately seeking to develop business linkages beyond their domestic markets to the emerging markets (Sunje, 1999; Alavarez-Gil et al., 2003). In the context of Australian and Indian mining firms, no doubt there are synergies to be made for both countries through inter-firm linkages. Consequently, Indian mining firms not only benefit from the advanced mining technology but also build strong corporate governance capability and learn to operate in a climate where environmental norms are mandatory, and cultivate sustainable mining practices through linkages with Australian mining firms.

The professional services sector world-wide is becoming a significant component of the economy, both in developed and emerging markets (Cardone-Riportella and Cazorla-Papis, 2001). Many of these professional services are delivered by smaller, saturated and developed markets, such as New Zealand, Australia, Scandinavia, Germany, and the UK, into the international field following the current deregulation of their economies (Chetty and Campbell-Hunt, 2004) in (Freeman and Sandwell, 2008). Consequently, bilateral trade linking India and Australia has grown swiftly over the years, increasing from less than USD 3 billion in 2002–2003 to around USD 20 billion in 2009–2010. India is today Australia’s third largest merchandise export market, while Australia is India’s eighth largest trading partner (Pargaonkar and Ravishankar, 2010).

2. Research Significance

Service firms are playing an increasingly important role in the economy. Even so, service firms in Australia have had a slower rate of export growth than manufacturing and primary sector firms. The role of mining service firms to the Australian economy can be articulated in two distinct ways.

First and most logically is the delivery of services by Australian firms direct to foreign consumers. Secondly, in a significant but difficult to measure way, Australian service firms are contributing to Australian exports through linkages with manufacturing firms. Service firms may provide value which is under-represented or completely unrepresented in export revenue figures. To understand and measure this value, there is a need to analyze modes of service export delivery, such as embodied services, which involve value embedded in manufacturing and primary industry exports. Embodied services are the value created by services firms to help produce Australian goods for exports. Embodied services are intermediate services, which are used in the production of goods and services (ITS Global, 2010). For example, manufacturing steel requires services such as electricity, transport, and typically business services, such as accountants. These inputs are said to be embodied in the final output or product that is exported.
For example, Leighton Holdings provides surveying services if they form linkages with Rio Tinto for their offshore mining business. Leighton could enhance their services exports. There are more than 90 firms in the mining services sector, so competition is high and focuses heavily on standards of services as well as price, which allows firms to compete for blue chip projects. Forming linkages would assist with continual business and international expansion. Similarly, the contract packing companies with the supply and installation of packaging equipment can form linkages with wine companies engaged in exporting to enhance their exports. A better understanding of such linkages and embodied services would identify substantial verifiable opportunities to economically improve the export performance of Australian firms, which could lead to the establishment of new industries or generate new value added operations with significant social benefits of employment creation. Several studies have been conducted to analyze which factors affect a firm’s decision to export, but not many have examined the determinants of export performance, and even fewer have specifically examined the Australian services sector.

Hence, this research is significant as services firms are playing an increasingly important role in firms that are manufacturing Australia’s export goods and moving them to foreign markets. There is also a great need to explore the existing new modes of service delivery like “embodied services,” defined as the value created by the services used to help produce Australian goods and services for export; this will enable services firms to enhance export performance (ITS Global, 2010).

The firms in question in this study are primarily delivering services into foreign markets through overseas subsidiaries and joint ventures with foreign affiliates. For these firms, sales of services by their foreign affiliates were more important than being associated with an Australian-based exporter of a complementary good or service—being “pulled” into exporting in the jargon—or by “clustering” with other services firms—either in Australia or abroad—to produce an integrated product for sale overseas (ITS global, 2010). This research is vital in shedding more light on the efficacy of building capabilities through linkages with other Australian exporters too.

Grounded in the network view of the firm, which focuses on understanding the complex networks within which business operates and provides a relationship focus to the internationalization process (Johanson and Mattsson, 1987), this research contributes to the extant international business literature by synthesizing two theoretical strands, namely the actor-network theory (Callon and Latour, 1992) and the relational capability theory (Birley et al., 1991, p. 58). The research investigates the importance of networks and linkages for enhancing the capability of services firms to augment export performance.

3. Research Aims and Research Question

The overarching aim of this research is:
To explore the efficacy of inter-firm linkages between Australian and Indian mining firms, and the degree of relational capability building and its impact on internationalization in Australian mining service firms.

To achieve this aim, this research starts with developing an understanding of the drivers and barriers to internationalization and the factors impacting exports performance of mining firms in Australia, through face-to-face interviews. Then, it explores the existing inter-firm linkages and the resultant relational capabilities, if any, and identifies new modes (embodied, cross border, and foreign affiliate) of internationalization. This is achieved through qualitative findings from the interviews of 11 services mining firms operating locally in Australia and having linkages through Australian subsidiaries in India and via 2 case studies demonstrating inter-firm linkages between Australian and Indian mining firms.

With this backdrop, the overarching research question is:

R1: Can Australian mining firms develop relational capability through local and international linkages leading to enhanced internationalization?

4. Literature Review

4.1 Network Effects in the Context of Internationalization of Firms

There are a number of approaches for understanding internationalization of the firm. Three general areas of research (Coviello and McAuley, 1999) include the foreign direct investment (FDI) theory (economic perspective), the “establishment chain” or stage models of internationalization (behavioural perspective), and the network perspective (relationship perspective) (Freeman and Sandwell, 2008). Firms are “networked” organizations with multiple ties among individual affiliate members (Khanna and Rivkin, 2001). Coordinated strategic actions and the internal sharing of resources, such as personnel, capital, and knowledge, among affiliate members interlocked by a variety of equity-based ties, such as cross-shareholdings, as well as non-equity-based ties, such as social ties, is a common practice (Bertrand et al., 2002; Douma et al., 2006) among firms (Kumar et al., 2012).

The internationalization literature emphasizes the contribution of individual and firm networks to firms’ internationalization efforts (Johanson and Vahlne, 1990; Oviatt and McDougall, 2005a). For example, a study of the internationalization of a sample of UK firms concluded that inter-personal relationships had an intense impact on the process, particularly in providing access to key networks in foreign markets that facilitated entry (Harris and Wheeler, 2005; Ellis, 2000). Ambler and Styles (2000, p. 501) point out “the apparent paradox is that under conditions of greater uncertainty associated with an international market (vs. the domestic market), particularly upon first entry … managers rely (more) on socially generated subjective knowledge,” emphasizing the importance of exporters’ networks as a source of uncertainty reducing knowledge to enhance internationalization. The authors stress the dissimilarity to the deep understanding that exporters tend to enjoy
about their domestic market, in a sense leading to an amplification of the feeling of a lack of knowledge at the international level and, therefore, emphasizing the uncertainty they experience. In the Chinese context, it has been argued that connections or relationships (guanxi) are important for deal making, lowering risk and removing some uncertainties (Liesch et al., 2011). For this study, inter-firm networks exist but did the firms realize their potential for internationalization? This motivates our first proposition.

**P1**: Australian mining firms realized that they were a part of a linkage with Indian firms that could enhance internationalization.

### 4.2 Inter-Firm Linkages

Firm characteristics clearly impact strategy formulation and performance in a global setting (Crick, 2009; Prange and Verdier, 2011). Under the resource-based view (RBV) of the firm, Penrose points out that growth, including export growth, can be seen as the result of dynamic processes where management interacts with resources (Penrose, 1959). The RBV involves leveraging bundles of tangible and intangible assets to gain competitive advantage (Barney et al., 2001) and through leveraging external resources through acquisitions, alliances, or other networks (Teece, 2010).

Zahra et al. (2006) maintain that when firms build new resource combinations to develop foreign opportunities, a higher-order dynamic capability and a lower-order substantive capability emerge. The higher-order dynamic capability drives the over-all international expansion, whereas substantive capability is a specific market commitment capability required to transition from the initial survival to growth stages. The survival and growth of firms depend on a firm’s ability to generate new knowledge of dealing with the specific situation.

A firm’s dynamic capability is established through the substantive capabilities, as these can be reconfigured over time and dynamic capability results in tangible benefits only through firm-specific advantage in developed markets (Zahra et al., 2006). Other studies view dynamic capability either as capabilities that respond to changes in the environment or as those which provide a source of competitive advantage (Eisenhardt and Martin, 2000; Griffith and Harvey, 2001; Zahra et al., 2006; Zahra and George, 2002; Khalid and Larimo, 2012).

The process of creating these networks and linkages involves stages such as those proposed by Walter (1999): (1) searching for actors, (2) bringing these actors together, (3) exchanging information, (4) coordinating activities between the two firms, and (5) getting negotiation results. These linkages may occur through relationships on the individual, team, and firm levels (Ritter et al., 2002). However, barriers to the formation of inter-firm linkages include difficulties initiating new relationships and unwillingness of managers to work with or share pertinent information with competitors or similar companies (O’Toole and McGrath, 2008).
P2: Australian mining firms were proactively able to manage their linkages with Indian mining firms to strengthen worthwhile bonds, realize the benefit of weak ties, and expand their networks for enhancing internationalization.

As stated earlier, a firm’s dynamic capabilities are potential drivers of competitive performance for firms by conferring an adaptive capability in response to or perceiving market dynamics, which leads to superior performance (Liao, 2010). The dynamic capability building involving interactions with other companies is known as “relational capability,” one that can be utilized to accelerate firm knowledge access and transfer, leading to firm growth and innovativeness (Lorenzoni and Lipparini, 1999, Knudsen et al., 2002). Relational capabilities emerge as a gradual process where companies decide to broaden their vision of their relationships to improve their competitive position (Webster, 1992; Lambert et al., 1996; O’Toole and McGrath, 2008). This research investigates whether this same “relational capability” that can be utilized to accelerate firm knowledge access and transfer, leading to firm growth, innovativeness, and competitive advantage can also enhance internationalization.

P3: Australian mining firms were able to access knowledge and generate, integrate, and utilize knowledge from linkage flows with Indian mining firms to build relational capability for enhanced internationalization.

4.3 Using Linkages to Overcome Export Barriers

Inter-firm linkages appear to have significant potential to positively influence export performance. O’Toole and McGrath (2008) suggest that cooperative relationships with external stakeholders can help firms to overcome the major limitations of lacking financial and human resources. In his study of very small craft businesses in the UK and Ireland, Fillis (2008, p. 18) found that “creative use of limited resources can break down barriers to growth.” He found that a range of exporting barriers can be bypassed through forming and exploiting links with network members in domestic and overseas markets (Fillis, 2008). Though this finding came from a single industry comprised of microenterprises, it shows how firms globally can leverage external networks to overcome the barriers faced by them with very limited resources. Barriers related to the lack of financial and human resources could potentially be fully overcome through networks as firms learn to build more cooperative relationships with other stakeholders in their business environment (O’Toole and McGrath, 2008, p. 14–15).

P4: Australian mining firms extracted and exploited opportunities in a network/linkage and improve the exchange process between themselves and Indian mining firms in a linkage to build relational capability for enhanced internationalization.
Creating linkages may take considerable human and financial resources. Cross-border linkages may require managers to undertake frequent overseas visits, showing commitment to a long-term working relationship, and showing a keen interest to understand the overseas partner’s culture (Choo, 1998). Another channel for creating linkages is through social networks, such as guanxi-related social networks for ethnic Chinese managers (Zhou et al., 2007).

O’Toole and McGrath (2008) propose six dimensions to relational capabilities which suggest important opportunities for firms to realize and then assess various networks, to access new knowledge and opportunities from those networks, and to work with other firms for “co-adaptation” or “co-innovation.” As adapted for this research the 6 relational capabilities are:

a) Realization capability: To map out and realize that they are involved in business-to-business networks that could enhance their marketing efforts. Firms must realize that they are a part of a network that can enhance their internationalization efforts.

b) Assessment capability: The ability to proactively manage their networks, to allocate time based on usefulness; strengthen worthwhile bonds; realize the benefit of weak ties; and expand their networks for enhancing internationalization.

c) Access to knowledge capability: Gain access to knowledge and the ability to generate, integrate, and utilize knowledge from network flows to enhance internationalization.

d) Access to opportunity: The ability to extract and exploit opportunities in a network and improve the exchange process between firms in a network to enhance internationalization.

e) Co-adaptation: The ability to proactively adapt to products and services through interaction within the network setting for enhanced internationalization.

f) Co-innovation: The ability to tap into the pools of technologies and human resources in networks in order to jointly innovate for internationalization.

The latter two dimensions are ideal outcomes of linkages, where “co-adaption” is the ability to adapt products or services through interaction in a network setting and “co-innovation” is where firms jointly innovate by pooling technologies or human resources (O’Toole and McGrath, 2008). Innovation-related activities, especially research and development (R&D) operations have been viewed as primary drivers of product and service differentiation and potentially firm performance (Liao and Rice, 2010). Relational capabilities are a result of a gradual process in which two or more companies decide to broaden their vision of relationships in order to improve their competitive position in the market (Webster, 1992; Lambert et al., 1996).

P5: Australian mining firms build relational capability through proactively co-adapting products and services through interaction with the Indian mining firm linkage setting for enhanced internationalization.
External factors may critically influence capabilities through inter-firm interactions and relationships. Blending dynamic capabilities and network theory, we see a blurring of boundaries between capabilities developed and nurtured within a firm and those deployed through external relationships (Gadde and Håkansson, 2010; Ngugi et al., 2010). Evolving from the tradition of the RBV, we see resources of a company integrated and activated through interaction with other parties (Ngugi et al., 2010). Actor-network theory links with the traditional RBV; however, resources cannot be assumed to be fixed entities, as changes may occur because of connections between people, technologies, and documents resulting in different resources. The actor-network model consists of 3 layers: actor bonds, activity links, and resource ties. Once a firm begins collaborating with other firms, it gains interaction experience, which builds fertile ground for further innovative interactions (Lorenzoni and Lipparini, 1999).

\textit{P6: Australian mining firms tapped into the pools of technologies and human resources through linkages with Indian mining firms in order to develop relational capability for co-innovation to enhance internationalization}

With the above backdrop, this paper explores the above 6 research propositions.

5. Conceptual Framework

The literature review above delineated the gaps in the literature as seen in “The Relational Capability-Linkages Model” in the context of the booming mining industry in Australia as shown in Figure 1. This research hopes to contribute distinctively to the international business literature by synthesizing two theoretical strands, namely the actor-network theory (Latour, 2005) and the relational capability theory (Birley et al., 1991, p. 58). Informed by the actor-network theory (Callon and Latour, 1992) and the relational capability theory (Birley et al., 1991, p. 58), this research investigates the importance of networks for building capabilities of services firms to enhance export performance through linkage.

Actor-network theory (Callon and Latour, 1992) applies to this research as it does not typically attempt to explain why a network exists; it is more interested in the infrastructure of actor-networks and how they are formed and utilized. Actor-network theory encompasses what is human and non-human (e.g., organization structures, networks, capabilities, modes of delivery). Thus, the concrete mechanisms at work that hold the network together are well understood, while allowing an impartial treatment of the actors, argue that firms need to build a set of capabilities to efficiently exploit and operate within their networks (Birley et al., 1991; Callon and Latour, 1992). Such capabilities are termed relational capabilities and describe the process by which firms are connected in a network setting to interact with a wide range of connected actors to purposefully exchange knowledge, create opportunities, and make joint process improvements, including adaptations and innovations (O’Toole and McGrath, 2008). The actor-network model consists of 3 layers: actor bonds, activity links, and resource ties. Resources are related to each
other in a network, and the three layers (actors, resources, and activities) are closely related and bound together by forces which, in turn, comprise the total network (Hakansson and Johanson, 1993) as shown in Figure 1.

This research also explores dimensions of relational capability which are formed at each layer of the network model through process integration between services firms to enhance internationalization through new modes of services. The research implements relational capabilities in a network to identify the importance of their relationships, manage them, or view them in terms of O’Toole and McGrath’s (2008) six dimensions to relational capabilities: network realization, assessment, knowledge acquisition, sources of opportunity, co-adaptation, or co-innovation. In layman’s terms, the networks assist service firms develop relational capability to develop synergies and linkages with other firms for product adaptation and innovation leading to enhanced internationalization as depicted in Figure 1.

**Figure 1. Conceptual Framework: The Relational Capability-Linkages Model**
6. Research Method

To explore the synergies and the linkages between the mining firms, a mixed qualitative methodology is adopted. It allows for in-depth study and theory building (Eisenhardt, 1989; Yin, 2009). The research is exploratory and exists within an interpretive paradigm. This mixed method approach involves qualitative semi-structured interviews and multiple cross-case-study developments. This approach is used across the international management discipline, is particularly suitable to international business research (Andersen, 1997), and effectively addresses the research questions. This approach, due to its collaborative nature, is suitable for this research as it aims to analyze the evolutionary nature of relational capabilities, which the firms develop through participation in networks and linkages with other firms. This method will allow service firms to learn from and share experiences with each other. Outcomes are best realized through relational capability building, which requires a direct engagement in the process. Face-to-face interviews allowed an understanding of the relational capabilities that can present themselves through a network setting (O’Toole and McGrath, 2008).

7. Firm and Demographics Data

Engaging the organization for this study began with deciding on the criteria with which to assess the potential suitability of an organization. Sample firms were selected through the stratified sampling methodology. A stratum is a subset of the population that shares at least one common characteristic. The stratum in this research would be Australian mining firms engaging with Indian mining firms and that consented to participate in this research for a period of 12 months. Austmine (http://www.austmine.com.au) assisted in the identification of the respondents. Face-to-face semi-structured interviews with proprietors or senior executives who were engaged in internationalization decision-making were conducted. Eleven firms were selected for face-to-face semi-structured interviews from the Australian mining directory (http://www.austmine.com.au). Additionally, 2 Australian firms were selected as case studies that had linkages with Indian mining firms for interviews on inter-firm linkages. One interview per firm was conducted for the case studies, resulting in a total of 4 face-to-face interviews. Additional data were also collected from company reports and media releases.

The selection for both sets of interviewed firms was based on the following criteria:

a) Market focus local/international: The strategy of these firms was explored to understand the focus of their business and whether they were engaged in international business or interested in internationalization in the near future. Were they delivering services into foreign markets through overseas subsidiaries/joint ventures or another mode?

b) Size of the firm, mostly SMEs

c) Ownership and years in operation
d) Location: Australia and India

e) Firms that had existing linkages/networks

In-depth interviews were conducted using the above themes for exploring the relational capability development and ensuing modes of internationalization using the adapted six-step process defined by O’Toole and McGrath (2008). The key themes for conducting interviews for both sets of interviews were centered on:

a) Background of the firm
b) International operations: Modes of international sales for products/services/embodied sales/cross border/foreign affiliate
c) Percent of annual sales in foreign sales
d) Barriers and drivers to export performance
e) Realization and assessment of capability, access to knowledge/resource, access to opportunity, co-adaptation, and co-innovation
f) Existing linkages and networks for enhancing export performance

Table 1. Face-to Face Interviewed Firms and Associated Firm General Data

<table>
<thead>
<tr>
<th>Firms*</th>
<th>Industry</th>
<th>Products/Services</th>
<th>Years in Business</th>
</tr>
</thead>
<tbody>
<tr>
<td>N2</td>
<td>Mining</td>
<td>Services</td>
<td>10</td>
</tr>
<tr>
<td>RCR Tomlingson</td>
<td>Mining</td>
<td>Product</td>
<td>16</td>
</tr>
<tr>
<td>VG</td>
<td>Mining</td>
<td>Gold Quarry development and Environmental planning service</td>
<td>13</td>
</tr>
<tr>
<td>Renison</td>
<td>Mining</td>
<td>Product: Gold</td>
<td>6</td>
</tr>
<tr>
<td>MM</td>
<td>Mining</td>
<td>Gas</td>
<td>6</td>
</tr>
<tr>
<td>Foh_M</td>
<td>Mining</td>
<td>Gas</td>
<td>8</td>
</tr>
<tr>
<td>GWH equipment</td>
<td>Mining</td>
<td>Open pit contract mining suppliers of small equipment</td>
<td>5</td>
</tr>
<tr>
<td>Sandvik</td>
<td>Mining</td>
<td>Manufacturing and service of mining equipment and parts</td>
<td>15</td>
</tr>
<tr>
<td>AIR</td>
<td>Mining</td>
<td>Security service</td>
<td>15</td>
</tr>
<tr>
<td>CTDA</td>
<td>Mining</td>
<td>LNG</td>
<td>7</td>
</tr>
<tr>
<td>QGC</td>
<td>Mining</td>
<td>Oil and Natural gas</td>
<td>5</td>
</tr>
</tbody>
</table>

Notes: * identities of some sample firms are disclosed while others were coded for anonymity.

Table 2. 3 Firms Interviewed for the 2 Case Studies and Associated Firm General Data

<table>
<thead>
<tr>
<th>Firms*</th>
<th>Industry</th>
<th>Products/Services</th>
<th>Years in Business</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bluescope</td>
<td>Mining</td>
<td>Iron and Steel</td>
<td>50</td>
</tr>
<tr>
<td>Corus</td>
<td>Mining</td>
<td>Iron and Steel</td>
<td>20</td>
</tr>
<tr>
<td>Tata Steel</td>
<td>Mining</td>
<td>Iron and Steel</td>
<td>80</td>
</tr>
</tbody>
</table>
The qualitative data from the 11 interviews were presented in the form of 6 relational themes, the degree of linkages formed, and the emergent modes of internationalization that ensued from them. Analysis of these themes was conducted using matrices and verbatim from the respondents (Miles and Huberman, 1994) and further segregated and developed using NVIVO.

NVIVO (Version 9.2) was used along with a general inductive approach and thematic analysis. Interviews and debriefs were recorded using a digital audio recorder. The transcription resulted in 524 single-spaced pages and 460,311 words. The accuracy of the transcription was double-checked by the co-author. All identifiers (such as names of the organization, interviewers, and participants) were substituted by appropriate codes to preserve confidentiality and privacy of the participating organizations and interviewees.

Comprehensive analysis of the 2 case studies has been performed to draw conclusions of our findings which have been presented in this paper. Tables 1 and 2 present the demographic data for the firms under consideration for this research study.

The conceptual framework will be tested further extensively in the next stage of the research through the statistical analysis of the survey data in progress to provide generalizability. Triangulation technique was used for the validity and credibility of results (Altricher et al., 1993) and the diverse case studies helped with generalizing. Although the companies were all from the mining industry, they dealt with varied products and services, yet common themes emerged among them.

8. Data Analysis and Discussions

The objective of this research is to investigate the degree of relational capability through linkages and identify the resultant internationalization that ensued. The Relational Capability-Linkages Model as an overarching framework provides evidence for a novel conceptual framework for observing and understanding network dynamics in the context of internationalization of services. Findings support the contention that firms develop relational capabilities through linkages to varying degrees which enhanced their internationalization.

Table 3 summarises the barriers and drivers to internationalization for the 11 sample firms. The commonality in the barriers can be seen in the lack of finance and knowledge to expand overseas, the desire for a larger market, and better and cheaper resources in the drivers for internationalization.

Despite resource constraints, many firms still possess the skills to export successfully (Calof, 1994). One such method for overcoming constraints and barriers is for firms to leverage networks with other firms to facilitate new market opportunities, access current market information, and develop links with other potentially useful contacts (Freeman et al., 2010). Once a firm begins collaborating with other firms, it gains interaction experience which builds fertile ground for further innovative interactions (Lorenzoni and Lipparini, 1999). The research herein explores if the linkages/networks of these firms assisted with internationalization is
evident. In accordance with the O’Toole and McGrath (2008) six dimensions to relational capabilities: network realization, assessment, knowledge acquisition, sources of opportunity, co-adaptation, or co-innovation.

Table 3. Barriers and Drivers to Internationalization

<table>
<thead>
<tr>
<th>Firms*</th>
<th>Barriers to Internationalization</th>
<th>Drivers to Internationalization</th>
</tr>
</thead>
<tbody>
<tr>
<td>N2</td>
<td>Lack of finance, shortage of skilled labor, and high labor costs</td>
<td>Access to innovation and quality resources, lower cost of operation overseas</td>
</tr>
<tr>
<td>RCR</td>
<td>Newly entered the market with partner, does not want to expand further due to lack of experience and resource</td>
<td>Access to large markets with large client bases, continual business</td>
</tr>
<tr>
<td>Tomlingson</td>
<td>Lack of overseas experience and market penetration, not interested in overseas market at this time, too small in size to venture overseas</td>
<td>More income, government rebate, knowledge sharing, more R&amp;D for international competitiveness</td>
</tr>
<tr>
<td>VG</td>
<td>Lack of info on promoting the product to overseas distributors/interests, lack of financial backing (venture capital, other) and working capital</td>
<td>Will expand when lower Australian exchange rate. Needs more capital requirements for additional production for exports</td>
</tr>
<tr>
<td>Renison</td>
<td>Counteract issues, risk of loss, knowledge, language barriers for doing business in overseas markets</td>
<td>For access to bigger markets</td>
</tr>
<tr>
<td>MM</td>
<td>Competitors do not understand market and customers, distance, finance needs</td>
<td>Access to quality raw material and markets and finance</td>
</tr>
<tr>
<td>Foh_M</td>
<td>Poor government strategies for the sector and lack of government support</td>
<td>Need cash flow for entering new markets</td>
</tr>
<tr>
<td>GWH Equipment</td>
<td>Changing market conditions, risks, changing government policies of markets where we operate, EU crisis, macroeconomic factors</td>
<td>Developing networks and opportunity, better economic environment to expand exports, better exchange rate</td>
</tr>
<tr>
<td>Sandvik</td>
<td>Different qualifications needed, experience applicable only to Australian mining conditions</td>
<td>More customers</td>
</tr>
<tr>
<td>AIR</td>
<td>Government red tape and barriers</td>
<td>Lower Australian exchange rate</td>
</tr>
<tr>
<td>CTDA</td>
<td>Tariff restrictions, volatility and strength of Australian dollar, certification of products for some markets</td>
<td>Access to growth markets and more business</td>
</tr>
<tr>
<td>QGC</td>
<td>Government restrictions</td>
<td>Bigger markets, more profits</td>
</tr>
<tr>
<td>Tata</td>
<td>Finance, reliable partners, language barriers</td>
<td>Resources, finance, for developing new products and expanding market for more sales</td>
</tr>
<tr>
<td>Blue Scope</td>
<td>Company policy, institutional factors</td>
<td>Good future prospects, bigger international market, share value</td>
</tr>
</tbody>
</table>

Notes: * identities of some sample firms are disclosed while others were coded for anonymity.
8.1 Network Realization Dimension

P1: Australian mining firms realized that they were a part of a linkage with Indian firms that could enhance internationalization.

This proposition was not accepted.

In order to benefit from linkages firms first need to realize the benefits of networks, what are networks, and how and which networks could enhance internationalization. Findings suggest that the respondent reported to engage in networks and linkages, yet they were not aware of the benefits of these linkages and did not realize that they helped enhance internationalization. They stated that they did not have time to develop these linkages proactively. Networks and linkages were not important and some of the comments that were received asked “What linkages? What networks?” by a respondent at CTDA.

These firms did not deliberately engage in network activities and, although a number of synergies were observed from network activity, they did not see the value of deliberately developing linkages. A participant at GWH stated that “They did not have time to think of developing networks and did not realize and recognize the benefits that ensued from linkages.” A respondent at Foh_M stated “We have an internet presence and a linked account that is our network.”

Firms that were in business for more than 8 years were found to be members of organizations and industry associations that valued and realized the significance of networks and linkages for internationalization sake. The others seemed to value their interactions with customers, suppliers, and distributors for assistance for international activities. There seemed to be a link between age of the firm and the realization of the significance of developing linkages for internationalization. Although these firms understood the meaning of networks, they confused it with social networks with friends and one-to-one relationships with customers, distributors, and suppliers.

8.2 Network Assessment Dimension

P2: Australian mining firms were proactively able to manage their linkages with Indian mining firms to strengthen worthwhile bonds, realize the benefit of weak ties, and expand their networks for enhancing internationalization.

This proposition was accepted.

The majority of collaboration activities occur across the network of the firm: customers (25% repeat business) and suppliers (30%) were strong linkages for export leads, distributors played an important role (30%), and the competitors acted as limited triggers (15%) and further it was observed that government assistance was minimal but there were opportunities to further develop networks with universities. The nature of linkages within firm networks can be positioned along a continuum in terms of “limited” to “extensive” networks, “reactive” to “proactive” networks, or “weak” or “strong” ties (O’Toole and McGrath, 2008). Perceptions of sample firms on strong and weak linkages for enhanced internationalization can be seen in Table
Table 4. Network Assessment Capability for Enhanced Internationalization: Perceptions of Weak and Strong Linkages for Enhanced Internationalization

<table>
<thead>
<tr>
<th>Linkages</th>
<th>Limited</th>
<th>Extensive</th>
<th>Reactive</th>
<th>Proactive</th>
<th>Weak</th>
<th>Strong</th>
</tr>
</thead>
<tbody>
<tr>
<td>Customers</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Other firms in the same industry</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Suppliers</td>
<td></td>
<td>X</td>
<td></td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Industry</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Associations</td>
<td></td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Universities</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Distributors</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Government</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Competitors</td>
<td></td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Others</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
<td></td>
</tr>
</tbody>
</table>

It was observed that, although Australian mining service firms had linkages with resultant relational capability that transpired into new modes of internationalization, there was no evidence of efforts being made to systematically assess, manage, and promote networks and linkages, although the value of managing the linkages was reported by all the respondents. AIR mining and energy services stated, “I am listed on the mining services directory – Austmine. There is no time for network. We are too small for these linkages and for lobbying with the govt.”

N2 responded by suggesting linkages is good, saying that “MESCA-Mining and Energy Services Council of Australia is good for networking with others in the industry.” On the other hand, QGC stated, “Networks are not part of their business strategy, and therefore not something that they considered separately or gave a special thought to.”

Some of the positive responses on developing and managing linkages were from VG who stated that they currently had a major research project with the Queensland University for developing new environment systems for the mining service sector, which they hoped to distribute worldwide through distributors.

Sandvik mentioned, “We developed a joint venture agreement to develop a new product with one of our distributors overseas,” which depicts their taking their relationship with their distributors to the next step to enhance internationalization activities, and discussions with CTDA indicated that they were in the process of importing new resources from a supplier in India. Thus, findings reveal that suppliers are perceived as a strong linkage for business growth (Welch et al., 2002). This involves acknowledgement of importing as a precursor to exporting. Welch et al. (2002) found that linkages from importing relationships (and other inward operations) can build contacts and credibility, which lead to export opportunities (outward operations). The responses revealed that the sample firms did use their...
networks for enhancing business in general and some of them even managed to augment internationalization.

It was seen that Australian mining firms were able to strengthen their relationship with Indian mining firms, which lead to further internationalization opportunities.

8.3 Knowledge Acquisition

P3: Australian mining firms were able to access knowledge and generate, integrate, and utilize knowledge from linkage flows with Indian mining firms to build relational capability for enhanced internationalization.

This proposition was accepted.

The ability to generate knowledge through linkages could lead to co-adaptation and co-innovation of products of services and lead to enhanced international business through exporting and importing. The responses depicted positive and negative views on knowledge sharing, but most firms agreed to obtaining new knowledge, which assisted in developing relational capability.

Renison was worried about sharing knowledge specifically with firms in India and China, as they felt that “sharing your knowledge is too dangerous due to piracy and intellectual property issues.” Sandvik stated that the most valuable information for business came from global journals and government reports, but they had managed to develop a joint venture through contacts with a distributor. On the other hand, VG was happy to be allies with the University of Queensland for developing a new environment system, which they hoped to import through distributors worldwide. Other respondents, which included QGC and CTDA, supported the access to knowledge from universities through joint projects, which had lead to new products for exports. GWH had remarked by saying that “We get valuable information from customers as per their needs and requirements through feedback.” GWH also suggested that their suppliers, distributors, customers, and even competitors provided the information required.

8.4 Opportunity Exploitation

P4: Australian mining firms extracted and exploited opportunities in a network/linkage and improve the exchange process between themselves and Indian mining firms in a linkage to build relational capability for enhanced internationalization.

This proposition was accepted.

Networks and linkages can enable firms to access new opportunities for further internationalization. Firms can acquire new business through referrals from their networks. Again, the trend observed earlier continued with significance given to relationships with customers, distributors, and suppliers, as evidenced by Sandvik “We could never have entered this new market without the support of our distributors”; according to them, distributors played a significant role when it came
to new markets overseas.

Customers were quoted as serving as an important network member who could provide access to new markets and customers overseas. Sandvik stated “Repeat customers overseas are our business we really do not go looking for new business.” Customers have been quoted as being an excellent source of feedback, hence an opportunity to explore and exploit ideas for improving the product or service. “Advertising in trade journals overseas helped us get our first export order,” a respondent at QGC was quoted as saying, who also confirmed that they engaged with Thiess in carrying out the early works contract for QGC Coal Seam Gas upstream infrastructure near the centers of Miles and Chinchilla in the Surat Basin in India. This opportunity had come through earlier contracts with Thiess. A further opportunity in the way of a multimillion mineral sand investment project was undertaken, which was reported by Renison Goldfields Consolidated Ltd. in Kerala, Southern India, through their suppliers in India. All of these varied responses suggest that Australian mining service firms have been engaged in exploiting opportunities in their network through distributors, customers, and formally through advertisements.

8.5 Product and Process Co-Adapting Capability

P5: Australian mining firms build relational capability through proactively co-adapting products and services through interaction with the Indian mining firm linkage setting for enhanced internationalization.

This proposition was accepted.

Co-adaptation was prevalent among the sample firms Renison, Foh_M, Sandvik, GWH, and AIR. “[We] have engaged in co-adaptation and new product development to suit new markets,” was reported by both respondents at Renison, and Foh_M stated they engaged in co-adaptation for the Indonesian mining partner to suit a legislation requirement. Henceforth, institutional factors played a crucial role in the co-adaptation process. Renison also reported collaborating with Bischoff Tin Mining Company for the installation of a new adapted 40-head crushing plant.

Sandvik reported they were “Engaged in joint venture for new product development.” Adapting products for the foreign market was facilitated by a distributor in this case. Sandvik reported acquisitions and establishments in the Chinese mining industry and working on the integration of Seco Tools as a wholly owned subsidiary, thereby consolidating their core business in metal cutting and generating valuable synergies through co-adapting and innovating new products.

“Customization as per customer requirements led to product co-adaptation and thereby process innovation too” was reported by the respondent at GWH equipment. “We have modified our service to suit the customers as per the information and instructions,” was the view provided by respondent at AIR. Mutual trust was important for this co-adaptation process, where both the parties were aware of each other’s expectations and capabilities. Such initiatives were mostly possible due to information and feedback from the customer (McGrath and O’Toole, 2010).
This is one example of a relational capability, which can be seen as a special kind of resource under the RBV as well as a unique and significant dynamic capability. It is not just in alliances and most forms of collaboration between firms lead to gains in interaction experience, which builds fertile ground for further innovative interactions (Lorenzoni and Lipparini, 1999). Traditionally, proponents of the RBV look only at resources and capabilities owned and controlled by a single firm (Dyer and Singh, 1998), but there is clearly a need to take a relational view where inter-firm linkages are active in an industry.

8.6 Innovation Capability

P6: Australian mining firms tapped into the pools of technologies and human resources through linkages with Indian mining firms in order to develop relational capability for co-innovation to enhance internationalization.

This proposition was accepted.

Innovations are facilitated through sharing of resources and skills by networks/linkages. Pooling of resources and skills of local and internationals linkages enabled R&D activities leading to new products and services. Key collaborators were customers, universities, suppliers, and distributors.

“We have a major research project with the Queensland University for developing new environment systems for the mining service sector,” was stated by the respondent at VG. Academic institutions were a reliable and preferred partner for co-innovation as access to knowledge through technology transfer (McGrath and O’Toole, 2010). VG has developed joint ventures, acquisitions, exploration, and the development of potentially large-scale mining projects in Africa to the point where they co-innovated mining processes for gold. “We shared services and equipment with other firms” within the industry, which led to new services, a respondent at N2 was quoted as saying. Information from competitors and their products and services lead to new innovations (McGrath and O’Toole, 2010).

Sandvik has a long tradition of innovation supported through significant R&D investments through linkages with their overseas partners. Their R&D centers have industry-leading track records in the successful commercialization of new products and materials. Sandvik Australia innovated a wide range of drill rigs for all types of exploration drilling for both underground and surface applications through partnership with their Indian operations to meet customer specifications. Models range from lightweight drill rigs for core drilling to heavy duty multipurpose drill rigs with the ability to perform both core drilling and reverse circulation drilling. “We are planning a trade delegation to India for identifying better resources for new products” a respondent at CTDA was quoted as saying. Co-innovation was seen to exist with varied members of the value chain in a one-to-one daily working relationship for resources, information, skills.

On the one hand, a central social-identity frame tries to ensure the reliable reproduction of knowledge; on the other, flourishing sub-units and subgroups, including diverse social-identity frames that, with the support of the local
environment and networks, pursue the creation of their own knowledge and their quest for strategic opportunities (Regner and Zander, 2011), were evident.

Table 5 below summarises evidence the 11 firms as seen across the 6 relational capabilities along with their modes of internationalization.

Table 5. Relational Capability and New Modes of Internationalization

<table>
<thead>
<tr>
<th>Firms*</th>
<th>Realization</th>
<th>Assessment</th>
<th>Knowledge and resources</th>
<th>Opportunity</th>
<th>Co-adaptation</th>
<th>Co-innovation</th>
<th>Resultant new modes of internationalization</th>
</tr>
</thead>
<tbody>
<tr>
<td>N2</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td>exports, foreign affiliate sales, embodied services exports, embodied services partnership with a mining firm, embodied services exports, embodied</td>
</tr>
<tr>
<td>RCR</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tomllingson</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>VG</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Renison</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MM</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Foh M</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>GWH Equipment</td>
<td></td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td>distribution agents, foreign affiliate</td>
</tr>
<tr>
<td>Sandvik</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AIR</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CTDA</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>QGC</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Notes: * identities of some sample firms are disclosed while others were coded for anonymity.

Overall, firms were seen to be able to access relational capability through linkages with other mining firms locally and globally on a number of occasions, which resulted in enhanced internationalization. Relational capability ensued more from one-to-one existing relationships than a network context, and there was scope to develop linkages, which is supported by previous research by O’Toole and McGrath (2008).

Scholarly interest in value creation created from relationships with network partners has grown and so has the portion of firm value creation derived from relationships (Dyer and Singh, 1998; Walter, 1999). In terms of one form of inter-firm linkages, Swaminathan and Moorman (2009, p. 64–65) find that rather than being a function of luck or serendipity, their results demonstrate that creating and
sustaining alliances is a capability and a “learned skill that firms can use to increase value from future alliances.” The sample mining firms interviewed seem to have realized the relationship between linkages and internationalization at the end of the interview, and all of them were happy to participate in the next stage of the research, which involved an action research workshop, where Indian mining firms were introduced to Australian mining firms for developing further linkages and for exploring the probability of developing relational capability.

9. Conclusions and Limitations

Addressing the research question “Can Australian mining firms develop relational capability through local and international linkages leading to enhanced internationalization?” we conclude that all but one proposition were supported by this research. Results show that linkages and networks were beneficial and assisted in developing the relational capability and lead to enhanced international performance through varied emergent modes.

Previous and current research support these findings and have examined the role and impact of linkages and networks (Harris and Wheeler, 2005; Ellis, 2000) and internationalization and the development of relational capability (Ambler and Styles, 2000, p. 501; Webster, 1992; Lambert et al., 1996; O’Toole and McGrath, 2008; Liao, 2010) of:

a) Value network sharing
b) Knowledge sharing
c) Resource and opportunity
d) Product and process innovations.

Birley et al. (1991) indirectly highlights the significance of realization capability for successful networks. Realization capability helps assess current capability and make organization for improvement and assists transformation capability and enhances planning and change competency. A number of studies (Lane and Lubatkin, 1998; Zollo and Singh, 1998; Gulati, 1999) confirm that capabilities can be derived from alliances or acquisitions, and that alliances can contribute to new and useful resources to an organization.

Welch et al. (2002) found that linkages from importing relationships (and other inward operations) can build contacts and credibility, which lead to export opportunities (outward operations). Linkages in a network allow entities to acquire new knowledge; thus allowing organizations to advance their competencies and build higher-order capabilities (Agarwal and Selen, 2009; Gupta and Govindarajan, 2000; Ibarra, 1993).

Internationalization of a firm can be explained by its dynamic capabilities that improve the exchange process (Grifith and Harvey, 2001; Luo, 2000; Madhok and Osegowitsch, 2000). Recent research by Helfat and Winter (2011) warns against a clear account between dynamic and operational capabilities. These capabilities can provide an operational purpose, for example by aiding in reciprocal activities that produce synergy for new products, which can lead to co-adaptation (Helfat and
Adaptation capability is strongly linked to strategic actions that intend towards the re-configuration of organizational resources, competences, and routines in order to meet demands and opportunities within a changing business environment. Characterized by the company’s ability to implement strategies and actions to meet market changes, dynamic capability gives rise to organizational adaptive capability. Relational capability acts as fuel for co-adaption (Ambrosini and Bowman, 2009). Extant literature has further indicated that when entities are loosely coupled, these partnering organizations are more motivated to share ideas, resources and competencies (Tsai, 2001; Uzzi, 1999), and it is through inter-organizational knowledge pooling that innovative outcomes can be attained.

Verbatim supporting the research findings delineate that each of the 11 firms interviewed had some form of a formal or informal network, although some were weak and some were strong. The linkages formed reinforced the developing of capability. However, all of the respondents stated that they did not deliberately develop these linkages; they were oblivious of the potential of developing these linkages and found them to be a part of their normal business processes, thereby leading us to reject the first proposition. These linkages though lead to relational capability building, and were found to have enhanced export performance as well through varied new modes. The analysis of both the case studies a) Tata steel and Corus and b) Tata steel and BlueScope (BHP) delineate the relational capability ensued at varied levels and thereby lead to enhanced trade through diverse modes of internationalization.

There are certain limitations to the analysis presented in this paper. As this is a pilot study, results from the small size of sample cannot be generalized, as such results could only be provided through qualitative verbatim evidence obtained through semi-structured interviews added with the in-depth, subjective, and objective data on each of the two case studies. Moreover, it only examines Australian firm’s linkages; hence, the findings could be different across varying national contexts.

The research is also limited to the mining services sector. The mining services sector is scattered—IT, equipment, systems, etc.—and the people are very busy as most of the times they are sole proprietorships with 1–10 people operating the business, and it is very difficult to interview them. They are mostly trade-focused and not management-focused.

The sample firms showed evidence that firms engaged in formal and informal internal and external networks but could not pinpoint those activities on a formal basis as networks or linkages; hence, they did not adopt structured processes to achieve these outcomes nor did they understand the value derived from these collaborations and linkages for internationalization purposes. Modes of services identified in these samples included embodied, foreign affiliates and cross-border sales, but overall only 2 of the firms reported embodied sales although most of them were engaged in providing some form of embodied service through their overseas subsidiaries, they did not term them as embodied services nor did they report them as service exports.
The reported barriers for export were lack of finance, knowledge, experience, red tape, risk, language, distance, tariffs, lack of government support, and other micro- and macroeconomic conditions. The reported drivers of exports were innovation for developing competitiveness, government rebates, availability of skilled labor, better economic environment, new markets, and more sales.

Further, the number of case studies was limited; as such it was not possible to draw conclusions about the linkages across the mining services sector as a whole. Nevertheless, the analysis of the firms participating in the study contributes to an understanding of their modes of service delivery and the efficacy and role of linkages for firm internationalization.

Hence, to be able to generalize the research framework, it needs to be tested more appropriately through an extended number of cases and a survey to provide further inference across different contexts, industry sectors, and nations.

10. Implications for Academics, Policymakers, and Managers

The implications for academics and managers include greater understanding of the role of linkages in the internationalization process of mining service firm, and the efficacy of relational capability developed. As such, for managerial decision making, this research highlights the importance of forming linkages to accrue benefits of relational capability enhancing export performance through varied modes of internationalization.

For Australian policymakers, this research assists in raising the profile of the mining sector to guide future policymaking for the sector’s growth, innovation, and competitiveness. Red tape needs to be eradicated for enhancing exports of services, and there is an obligation to develop initiatives for internationalization of the services sector and to promote the significance of linkages for the internationalization of this sector. Allocation of resources, capital for research, and knowledge to market the expertise of this sector internationally is also a constraint for the services sector and requires new policymaking.

It is suggested that, as a result of this research, policymakers will consider policies, programs, and initiatives for building and developing networks and clusters near mining sites that would enhance internationalization of mining services and mining companies through a co-operative strategy. This initiative could enable mining service firms to form linkages and develop relational capability and enhance export performance.

References


Latour, B., (2005), Reassembling the Social: An Introduction to Actor-Network-Theory, Oxford University Press, USA.


