An investigation of the cross-border supplier development process: problems and implications in an emerging economy.

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Abstract

This paper is concerned with supplier development in an emerging market context. The context of the study is the interaction between Pakistani suppliers and Japanese automotive manufacturers in equity joint ventures operating in Pakistan. Using a novel approach drawing data from buyer ‘and’ supplier, the paper presents a three stage (evaluation, exploration and interactive) teleological process theory that highlights the key relational, knowledge transfer and operational factors that signify each stage. Key conclusions are drawn as to the importance of relational ties, the early importance of absorptive capacity. Notions of stasis implied by predominantly cross-sectional research into supplier development are challenged and the findings reveal many factors demonstrate temporal dynamics. The paper also highlights CSR dilemmas for developing country investors establishing supplier development programmes in developing economies.

Key words: International supplier development, knowledge transfer process, inter-firm supply chain relationships, automotive industry, developing markets
1. Introduction

The process of globalization has made it easier for the multinational corporations (MNCs) to fine slice their value chain activities across the globe and focus on core activities (Grant & Baden-Fuller, 2004; Quinn, 1992). This model of fine slicing has concomitantly made the MNCs-buyer relationship more interdependent. When such arrangements cross international borders, this interdependency becomes significantly more complex than in a domestic setting. However, a surprisingly small proportion of buyer-supplier research has focussed specifically on programmes that have an international dimension (Seppanen, Blomqvist, & Sundqvist, 2007). A further deficiency in this literature is the lack of investigations examining interplay in developed - emerging country dyads and networks. The focus in this paper is on one aspect of buyer-supplier interaction where these deficiencies are particularly marked; supplier development programmes (SDPs).

Due to the under-development of suppliers in developing economies and also due to the unique institutional set-up, managers in MNC buying firms from developed economies face a reality that in local outsourcing in a developing economy, a supplier’s capabilities may not meet the future needs and expectations of the MNC buying firm. Under these circumstances, SDPs should take on greater strategic significance than in developed markets. However, due to resource asymmetry, a dependent rather than interdependent dynamic can initially be manifest whilst local suppliers catch-up technologically (Chang & Gotcher, 2007; Jean, Sinkovics, & Kim, 2010a; Jean, Sinkovics, & Kim, 2010b). The dependency of local suppliers is particularly marked where local content requirement regulations are removed. These
Asymmetries therefore complicate SDPs in emerging economies and presents both strategic and CSR dilemmas for developed country MNCs operating in emerging countries. The dynamics of SDPs are explored in the findings section of this paper through the lenses of Japanese automotive manufacturers operating through joint ventures in Pakistan and their local Pakistani suppliers. This paper marks the first study of SDPs in Pakistan and adds to only a small body of literature specifically studying SDPs in developing economies. Further, the findings add to a very limited body of research considering foreign direct investment (FDI) related SDPs between partners from developed and emerging countries.

As well as identifying gaps in exiting literature, in this paper, a further attempt is made to make contributions to knowledge through problematization (Alvesson & Sandberg, 2011; Sandberg & Alvesson, 2011). Problematization is approached here by thinking counter-institutively and making a break with the quantitative dominance of supplier development research (Makkonen & Olkkonen, 2013) and instead apply a qualitative lens to the study of SDPs. The processes through which supplier development programmes evolve over time are exposed and the distinct phases through which such arrangements move are isolated. This approach and subsequent theory contribute the strategy as process tradition (Johnson, 1987). Exposing such temporal dynamics counters notions of stasis in SDPs implied by predominantly cross-sectional investigation of such arrangements evident in current literature (Knoppen & Christianne, 2007; Krause, Handfield, & Tyler, 2007). The paper marks an early contribution to understanding process in international SDPs.

The rest of the paper is organized as follows. In the next section, we discuss the conceptual background of the paper. In section 3, the methodology of the study is
presented. The substantive part of our findings are presented in Section 4 and we conclude by discussing the methodological, theoretical and managerial implications of these findings.

2. Conceptual background

2.1. Supplier development programmes
Supplier development (SD) pertains to any activity initiated by the buyer to improve the short or long-term performance of its suppliers (Krause, Handfield, & Scannell, 1998; Krause, Handfield, & Tyler, 2007; Krause, Scannell, & Calantone, 2000) within dyads or within a broader network of suppliers (Govindan, Kannan, & Haq, 2010).

SDPs have been studied in the USA (Carr et al., 2008; Krause, Handfield, & Tyler, 2007; Modi & Malbert, 2007; Prahinski & Benton, 2004; Wagner & Krause, 2009), Hong Kong (Li et al., 2007), Japan (Sako, 2004) and Germany (Ghijsen, Semeijn, & Ernstson, 2010; Wagner, 2011); and in developing economies such as Mexico (Arroyo-Lopez, Holmen, & Boer, 2012), Brazil (Lakshman & Parente, 2008) and India (Govindan, Kannan, & Haq, 2010). The context of this study is the automotive industry, which marks the most common industry context for SDP research. However, an examination of the SDP literature reveals that the majority of studies have been conducted within a single country and there is limited evidence of a study that moves to examine the dynamics between a foreign (investor) buyer and domestic suppliers or cross border arrangements. An exception is the recent study of cross-border SDPs in the Turkish context by Inemek & Mathyseens (2012). They state that “although the increased globalization of supply chains has created profound interfirm relationships across national borders, existing literature provides little
evidence about how these relationships contribute to supplier innovativeness”. A number of other authors have suggested that supplier focused development is more likely in a developing economy rather than a developed economy due to the greater dynamism of the environment (Hitt et al., 2000; Lakshman & Parente, 2008) and more pronounced levels of resource asymmetry (Jean & Sinkovics, 2010; Jean, Sinkovics, & Kim, 2010b). This asymmetry has led further authors to examine supplier development as a facet of a supplier firm’s corporate social responsibility (Lu, Lee, & Cheng, 2012).

Several significant contextual gaps in respect of SDP programmes in developing economies are therefore apparent in current SDP literature. To address these gaps, the first study of SDPs in Pakistan is presented, but more significantly, an attempt is made to bring SDP research into the domain of international business by providing a rare study into FDI related SDPs between developed (Japanese) and emerging (Pakistan) country partners. We next turn from context to the content of current SDP literature.

2.1.1: Communication and knowledge transfer in supplier development programmes

The focus in most SDP studies has been on the impact of extant variables on the effectiveness of supplier initiated activity towards a buyer, with a smaller body of work studying these cause and effect associations of such arrangements from the suppliers perspective (Nagati & Rebolledo, 2013; Prahinski & Benton, 2004). Even more limited studies consider perspectives from both sides of the buyer-supplier dyad (Lu, Lee, & Cheng, 2012; Praxmarer-Carus, Sucky, & Durst, 2013). However, many
of the constructs in this limited body of literature have not been consistently defined (Carr et al., 2008).

Prominent amongst the variables examined in SDP research is knowledge transfer (Arroyo-Lopez, Holmen, & Boer, 2012; Wagner, 2006; Wagner & Krause, 2009) and information sharing (Krause, Handfield, & Tyler, 2007; Lakshman & Parente, 2008). Recipients of knowledge need to be motivated to learn new knowledge and indeed the sender of the knowledge must have knowledge that the receiver deems valuable. Suppliers therefore may choose not to participate in supplier development programmes if they are unable to see enhancements to their overall competitiveness from doing so (Krause, Handfield, & Tyler, 2007). Additionally, matters of asymmetry may also affect the knowledge transfer dynamic. There may be occasions where supplier firms are unwilling to reveal strategic information through fear of weakening their hand in negotiations with a buyer, or there may be circumstances where a buyer holds back key knowledge to protect firm specific assets or to avoid anti-trust issues (Fortanier & Kolk, 2007).

Knowledge transfer is recognised as one of the most important factors for the development of supply chain competitive advantage (Cheng, Yeh, & Tu, 2008; Crone & Roper, 2001) and therefore it is unsurprising that it emerges as prominent in SDP research. However, Krause, Handfield and Tyler (2007, p.533) propose that research should consider how SDP activities vary across different performance related goals and caution that “knowledge sharing activities necessary for lowering the buying firm’s costs, are arguably not the same as might be required to transfer tacit knowledge to improve quality, delivery and flexibility performance”. Prahinski and Benton (2004) discuss the relative richness of a communication channel to effect
knowledge transfer. For instance, they suggest that face-to-face communication is the richest and most direct channel to transfer tacit knowledge whereas technical, process orientated information is more effectively transferred in a codified form (Wagner, 2006), possibly through an electronic channel. Prahinski and Benton (2004) also highlight how the frequency and direction of communication and the degree of feedback can also vary in respect of the different aims of a supplier development programmes. One way communication can disseminate codified information whereas matters such as “quality delivery and flexibility” (Krause, Handfield, & Tyler, 2007, p.533) are more likely to require feedback and more collaborative two-way communication (Modi & Malbert, 2007). However, the concept of knowledge transfer is difficult to capture. Scholars have equated knowledge transfer with knowledge creation and application of knowledge (Collins & Hitt, 2006; Grant, 1996; Nonaka, 1994; Nonaka & Takeuchi, 1995; Spender, 1996; Spender & Grant, 1996). Hence, a study of knowledge exchange should consider both the context of transmission as well as the dyadic receipt of knowledge (Argote & Ingram, 2000) exposing a potential deficiency in SDP literature which has been studied substantially from only one side (mostly the buyer’s side) of a dyad (Lu, Lee, & Cheng, 2012; Praxmarer-Carus, Sucky, & Durst, 2013). A further important element of knowledge transfer that has rather surprisingly received only limited attention in SDP research is that of a supplier’s absorptive capacity (Arroyo-Lopez, Holmen, & Boer, 2012). Absorptive capacity is the ability of a knowledge receiver to assimilate transmitted knowledge (Cohen & Levinthal, 1990; Zahra & George, 2002). We next examine relational aspects of SDPs.
2.1.2: Relational factors in supplier development programmes.

A further prominent aspect of SDP research are relational variables. Mirroring other bodies of literature such as relationship marketing (Morgan & Hunt, 1994), variables such as commitment/trust (Ghijsen, Semeijn, & Ernstson, 2010; Govindan, Kannan, & Haq, 2010; Krause, Handfield, & Tyler, 2007; Li et al., 2007; Nagati & Rebolledo, 2013; Prahinski & Benton, 2004), programme specific investments (Ghijsen, Semeijn, & Ernstson, 2010; Govindan, Kannan, & Haq, 2010; Li et al., 2007; Mahapatra, Das, & Narasimhan, 2012; Wagner, 2006), dependence (Carr et al., 2008; Ghijsen, Semeijn, & Ernstson, 2010), relationship orientation (Arroyo-Lopez, Holmen, & Boer, 2012; Mahapatra, Das, & Narasimhan, 2012) and fair distribution of costs and benefits (Praxmarer-Carus, Sucky, & Durst, 2013) have been used to examine SDPs relative to certain performance outcomes. Further variables not commonly associated with relationship marketing have also been used such as relational capital (Krause, Handfield, & Tyler, 2007) and value co-production (Lakshman & Parente, 2008) which may encompass buyer-supplier involvement and supplier training initiated by buyers (Carr et al., 2008) and staff transfers (Wagner, 2006; Wagner & Krause, 2009). Mature and trusting supplier development arrangements have also been found to include facilitation of value co-production through buyer-supplier-supplier relationships (Ho, 2013; Wu & Choi, 2005; Wu, Choi, & Rungtusanatham, 2010) by a buyer firm.

We identify several conceptual weaknesses in SDP literature, indeed most variables have received limited attention and as suggested by Carr et al. (2008) remain inconsistently defined. Of particular value would be further exploration of variables
that are of significant relevance in asymmetric relationships, such as in developed-emerging country dyads. The dynamics of knowledge transfer in such contexts is conceptually underexplored. Of further relevance would be examination of dependence and absorptive capacity and these concepts in particular would seem to demand consideration from both sides of the dyad. These variables will be explored in this paper, but in a novel way. Rather than test variables in the dominant quantitative tradition of SDP research, in this paper a further attempt make a theoretical contribution is advanced by additionally utilizing the notion of problematization (Alvesson & Sandberg, 2011; Sandberg & Alvesson, 2011) alongside gap-spotting. This counter-intuition is advanced by next considering concepts of time and process used in the SDP and other relevant bodies of literature.

2.1.3: Time in supplier development research

Several authors have highlighted the importance of revealing a temporal dimension in supplier development theories (Knoppen & Christianne, 2007; Krause, Handfield, & Tyler, 2007; Prahinski & Benton, 2004). Wagner (2011, p.277) recently noted that “previous research on supplier development have investigated the buying firms’ supplier development activities at a single point in time and ignored the life-cycle of the buyer-supplier relationship”. However, it is arguable that quantitative attempts to reveal a time dimension in SDPs instead reveal variance at given intervals rather than truly exposing process. Process theories explaining SDPs seem to be absent. The process tradition in international business is well developed (for instance Johanson & Vahlne, 2009; 1990; Johanson & Wiedersheim-Paul, 1975; Vahlne & Johanson,
We identified in section 2 that two key conceptual areas, knowledge transfer and relational factors, both of which have been prosesually explored in relevant extant literature. Process in the business-to-business (Dwyer, Schurr, & Oh, 1987; Ford, 1980; Grönroos, 1980) and knowledge transfer (Bresman, Birkinshaw, & Nobel, 1999; Szulanski, 1996) literature has been conceptualized as a series of stages. A defining element of such process models is the strength and direction of growth in relationships and the effectiveness of knowledge transfer over time. However, more recent work has postulated that stages have generative, degenerative or neutral episodes, counter to the deterministic logic of earlier lifecycle models (Schurr, 2004, 2007). Many models tend to contain a small number of stages, typically 4 or 5 and often posit a final decline stage. A deterioration/decline stage has been the subject of further distinct episodal study in the industrial marketing literature (Tidstrom and Åhman, 2006; Tahtinen, 1998, 2002).

It is possible therefore to identify both contextual gaps and conceptual weaknesses in SDP literature that pose questions as to the dependability of findings over time (Lincoln & Guba, 1985). Through problematization, further potential opportunities to make theoretical contributions by considering process rather than variance in SDP research are identified, thus challenging notions of stasis evident in the current body of SDP literature. There is a particular opportunity to understand the processual dynamics of SDPs between developed country investors and emerging market suppliers in an emerging market context characterised by high levels of knowledge asymmetry.

3. Methodology

3.1. Research context and data collection process
The automotive industry of Pakistan is a unique context for study as the industry has three major auto manufacturers from Japan operating via equity joint ventures (JVs). Pakistan offers a strategic location for investment and export due to its strategic links with China and its close proximity to India and the Middle East. Pakistan therefore represents a significant opportunity for researching the process of supplier development in FDI. The country has also recently undergone liberalization of the regulations governing FDI, and local content requirements were removed shortly before the fieldwork commenced (in July 2006) thus removing a weight of artificial dependency on local suppliers from the shoulders of foreign investors. Managers in fifty Pakistani component suppliers and three Japanese auto assemblers were interviewed in order gain understanding of supplier development. Three distinctive supply chains were therefore examined for transferability of the findings (Lincoln & Guba, 1985). Table 1 provides a description of respondents along with their average duration in post.

[Insert Table 1 about here]

The fieldwork was conducted from March 2008 to June 2008 and then again during May 2009 to November 2009. Topics raised in semi-structured depth interviews were related to the process of supplier selection, development, technological knowledge, types of knowledge being transferred, transfer mechanisms and relationships. Each interview lasted for an average of 60 to 75 minutes. To assure confirmability of the findings (Lincoln & Guba, 1985), the interviews were recorded unless the managers asked us not to do so; in which case detailed notes were taken. Interviews were conducted in English and Urdu (the national language of Pakistan) with the help of an
interview guide (as per the guidance of Miles & Huberman, 1994). The interviews which were conducted in Urdu were transcribed and back-translated to English. The managers were encouraged to share their retrospective accounts (Golden, 1992, 1997) of participation in supplier development programmes.

3.2. Data analysis
Data was analyzed by following the suggestions of Miles and Huberman (1994) and Eisenhardt (1989). Data analysis evolved through four concurrent activities. The excel spreadsheet 2007 was the main tool for the data storage, retrieval and subsequent analysis. First, the raw interview data and notes relating to the interviews were saved in the spreadsheet. Second, the data was organized into different categories, e.g., transfer process, different relational stages of supplier development, types of knowledge being transferred, etc. Third, the data was coded according to the conceptual background and new concepts and respective codes added as needed. During the analysis process, the principles of open-coding were followed (Strauss & Corbin, 1998). Data collected from component suppliers was compared with those from the 3 JVs and vice versa in order to probe for confirmations and contradictions. The coding schemes were independently audited by two auditors; an organizational anthropologist and a management scientist. In some cases, the codes were revised according to the auditor’s consensus. By examining and triangulating the views of both suppliers and buyers both confirmations and contradictions between the perceptions of the interlocutors were identified (perception gaps in SD programs were recently discussed by Praxmarer-Carus, Sucky, & Durst, 2013). Through these measures, the credibility and dependability of the findings was assured (Lincoln & Guba, 1985).
3.3. Time in process theories

It is possible to discern four types of process theory; life-cycle, teleological, dialectical and evolutionary (for a full discussion see Van de Ven, 1992; Van de Ven & Poole, 1995). Life-cycle models have received significant attention within business-to-business research (Dwyer, Schurr, & Oh, 1987; Eggert, Ulaga, & Schultz, 2006; Ford, 1980; Jap & Anderson, 2007; Tidstrom & Åhman, 2006). In lifecycle models, the “trajectory to the end state is prefigured, and requires a specific historical sequence of events” (Van de Ven, 1992, p.177). Teleological and lifecycle theories both have predictable end and start points, but differ in that teleological process theories enshrine a notion of equifinality (Von Bertalanffy, 1968) in that different trajectories can be taken to reach the same end point and progression between distinct stages is not automatic. Current literature examining SDPs has not yet captured the distinct stages of process which may ultimately affect the knowledge transfer process and the overall effectiveness of SDPs (Wagner, 2011). In particular, the teleological interplay between relational factors and knowledge transfer has escaped study in SDP research. A theoretical narrative as to the reasons for a process’s, progression, degeneration and stasis is provided in this paper (Bizzi & Langley, 2012; Makkonen, Aarikka-Stenroos, & Olkkonen, 2012) and a visual process map of the key factors in such a teleological process is also developed (Langley, 1999).

4. Findings
4.1. Supplier development process - stages

The results indicated a three stage supplier development process in the supplier development programme. These stages differ in terms of the type of knowledge transferred from assemblers to their local suppliers, quality and level of interaction, direction and richness of communications and the orientation of the assemblers towards the development of the supplier. Fig 1. is a visual process map (Langley, 1999) outlining how these factors relate to three stages in the supplier development process. The framework also acts as a conceptual framework for the remainder of Section 4.

[Insert Figure 1 about here]

4.1.1. The qualifying stage

The qualifying stage for Pakistani suppliers was characterised by a prequalification selection of the key suppliers who met the auto assemblers’ criteria by having adequate machinery, plants, ISO certifications and manpower. In each of the assemblers, the selection process was completed by a committee comprising of the Managers of the Production, Engineering, Supply Chain and Quality Assurance functions. The committee’s recommendations for the selection of these component suppliers were subsequently approved by the Deputy Managing Director or Managing Director of an assembler.

The interviewees stated that since assemblers had the key knowledge and information about the components, the suppliers had to rely on the assemblers for the
knowledge to develop the component. As one Operations Manager from an auto assembler explained:

“The prequalification selection of the suppliers is an important aspect of business dealings... and more so for technology transfer. [...] During our visit we identified some potential suppliers from whom we can get a component [parts] and who can also be a potential candidate for technology transfer, and after this visit, and getting approval from both the Deputy Managing Director and Managing Director of our company, we sent the parts drawings to the selected suppliers who met our requirements to do the product prototype for us”. [Operations Manager- Assembler firm 2]

During this phase, assemblers transferred only codified knowledge in the form of product drawings to the suppliers and little social interaction or communication took place between the product development team from the supplier side and engineering and design team of the assembler’s side. As such, the potential to transfer tacit knowledge through face-to-face (F2F) contact was absent. The following are comments from our respondents from the component suppliers’ side who described this stage of technological knowledge transfer process.

“We remember in the initial stage of this business partnership, our client started sending us a bunch of drawings... it was like pouring a jug of water on an empty head”. [Deputy Managing Director – Component supplier firm 3]

Having an “empty head” is interpreted to mean that that in stage one, this respondent had a low absorptive capacity, even where the knowledge being transferred is mostly codified and explicit in the form of documents and drawings. These comments highlight the importance of the perceptions of the actors as to the nature of the knowledge being transferred. The sender of the knowledge may assume that knowledge being transferred is explicit, whereas the recipient might interpret it as a tacit knowledge. Thus, qualification within this phase for a supplier may have been based on past experiences that have built up from previous interactions outside the
focal exchange, and not only based on the conditions established within the focal exchange. Thus the underlying perceptions of the parties to the exchange seem to have become an important factor in the exchange alongside the actual characteristics of knowledge. A crucial indicator of stage one interactions is a lack of F2F contact. F2F contact has been found to be crucial in the exchange of more tacit forms of knowledge (Dhanaraj et al., 2004; Gertler, 2003; Haldin-Herrgard, 2000; Ho, 2013; Teece, 1998). That lack of F2F was particularly apparent between the suppliers’ Product Development Department and the client’s Engineering and Purchasing Department during the initial transfer of drawings (fig.1: column 4). This stage was therefore characterised by just a one-way technology transfer from three auto assemblers to the Pakistani auto component suppliers. The start of a relational interaction is therefore indicated by the formal completion of the qualifying stage, and is not apparent during it. Before such a signal is sent, the exchange orientation seems transactional (fig.1: column 2) rather than truly relational (supporting findings Dhanaraj et al., 2004). Additionally, communication appears to have been uni-directional, from assemblers to suppliers (fig.1: column 4). The following comment hints at this lack of bi-directionality in communications.

“If our engineer has any problems or wants to have a joint meeting with our client’s engineer to go over the drawings, it is very difficult to get hold of the client’s engineers”. [Product development Manager – Component supplier 8]

Such communication asymmetry is a further indicator or a transactional rather than relational orientation on the part of the assemblers. An auto assembler’s Supply Chain Manager said:

“We don’t have any problem with providing assistance to our local component suppliers.... we are happy to do this.”
…but he continues in a somewhat contradictory tone:

“In the initiation [qualifying] stage we provide them [supplier] just part’s ...drawings”.

…and seems further to contradict his opening statement what stating:

“It is their [the suppliers] job to work out the way they want to develop the prototype. [...] They should not expect more help during the early stages of this business relationship”. [Manager Supply Chain- Assembler firm 3]

Being “happy to help” therefore seems heavily caveat ed to mean, we help “only after a qualifying period”. There seems no evidence of value co-production. Those suppliers whose prototypes failed the testing were promptly dropped from the process; hence this first phase seems teleological in nature, rather than being a preordained sequence of lifecycle steps (Fig 1: column 1). This selectivity to some extent supports work by Makkonen and Olkkonen (2013) that a supplier development programme can include an imperative to treat suppliers differently depending on their strategic importance at different stages of the programme. However, alongside the lack of opportunities for the suppliers to gain tacit knowledge, there also seemed limited opportunity for suppliers to pose questions in respect of codified knowledge that was transferred. The need to ask such questions points to some assumptions by the foreign assembler’s as to the absorptive capacity of local Pakistani suppliers. Whereas it was apparent that the assemblers deemed this an even and fair playing field on which to select supply chain partners, the data suggests that more internationally experienced Pakistani supplier firms, or supplier firms with more internationally experienced managers had some advantage in this stage. Such firms therefore possessed a historically grounded advantage whilst other firms without this advantage could conceivably be eliminated not necessarily based on their future
potential as a supply-chain partner having subsequently participated in an effective supplier development programme. The assumption of past experience alongside assumptions of absorptive capacity may well be appropriate in developed markets but less appropriate in developing markets. Knowledge ‘stickiness’ (Szulanski, 1996) seems exacerbated in developing countries and that it is unlikely that this stickiness was mitigated in this first phase of the process through the approach taken by the foreign assemblers in our study. It is questionable therefore whether, despite assembler firms’ assertions to the contrary, that a true supplier development programme, in the sense that action by the buyers was determined to positively affect supplier performance was evident in the way it could be defined in a developed economy context. Rather, a contest that seemed to provide little value to suppliers was evident. The first phase that is identified is characterised by a non deterministic progression to the second stage with elimination being on the basis of underperformance against a specification and written set of instructions (fig 1: column 1). What is referred to as an evaluative stage is next explored.

4.1.2. Evaluative stage

Progression to this stage was explicit and was, in effect indicated by a formal notification by the assemblers (fig.1: column 2). During this stage, the auto assemblers provided more detailed product specifications with clearly laid out parts’ dimensions, quality parameters, some technical information about the required component, and in some cases, advice on machinery and tools. Hence, whilst the information transferred here remained codified it was richer and more valuable in nature. A CEO of a component supplier suggested:
“Once we have passed the product testing, during this phase we have received detailed client specifications about the component and quality parameters”. [CEO- Component supplier 4]

During this stage of the technology transfer, Pakistani suppliers were expected to follow the assemblers’ product-related specifications and ensure the quality of the part. One auto assembler’s supplier’s development manager said:

“As we are progressing with our business relationship, we are providing detailed parts specifications with strict quality guidelines, and some technical advice on machinery and tools”. [Suppliers Development Manager- Assembler firm 2]

Interviews with the component suppliers also point out that they must follow strict quality standards and must have strict quality control systems at their plants to ensure that the final components meet the clients’ expectations. One CEO from the component suppliers remarked:

‘Our engineers have to go over the strict product quality criteria to make sure that the product meets the client’s requirements…. After all, our business depends on them’. [CEO- Component supplier 24]

Interview data also suggests that the selected Pakistan’s component suppliers needed to have acquired the required quality certification, for example, ISO 9000, 9001 etc. There would seem to be clear evidence of value co-production in Stage 2 of the programme whereas it was absent in Stage 1.

The data suggests that in this stage, assemblers also initiated some socialization activities with their suppliers. As one of the assembler's managers indicated:

“The vendors [suppliers] and our company employees socialize on perpetual basis, as we are still at the early stage of getting to know our vendors [suppliers], we invite the selected vendors [suppliers] for sports and social gatherings etc. In which both the employees of our company and vendors [suppliers] participate”. [Deputy Manager Suppliers development- Assembler firm 1].
The distinct activities by the assembler during this stage were the provision of detailed product specifications with clear part dimensions and quality requirements, and the development of the final localised part by Pakistan’s component suppliers. A key operational signifier in the evaluative stage was the production of the final localised component. Those suppliers whose final localised parts met the requirements of the assembler were progressed further and assemblers started providing on-the-job training, thus signalling the beginning of the interactive stage of technology transfer. However, these suppliers were also those reporting the highest levels of socialization. Although difficult to discern causality, it is probable that those suppliers meeting quality specifications are deliberately drawn closer to the supplier as a matter of strategic intent. However, there is clear evidence of a relational orientation on the part of the buyer in Stage 2 that was absent in Stage 1.

In the evaluative stage, the results indicate that to different extents, three types of codified knowledge—product, process and managerial were here being transferred to the local suppliers. This marked a change to the Stage 1 where only product related knowledge was transferred. Further, in the qualifying stage, the three auto assemblers transferred only explicit codified knowledge. As the evaluative stage unfolds, there is evidence of more tacit knowledge transfer taking place to local suppliers (fig 1:column 4). This finding is similar to the study of Bresman, Birkinshaw, and Nobel (1999), and Duanmu and Fai (2007) who found that tacit technological knowledge is transferred during the mid to latter stages of a business relationship. The main reason for the lack of tacit technology transfer during the first (qualifying) stage of the transfer process seemed to be a lack of close social interaction or communication from auto assemblers to their component suppliers. The results suggest that relational
ties are conduits of knowledge transfer and these ties were developed from the
evaluative stage of the technology transfer process, in this way the parties making the
transfer came to know each other incrementally. Such increments included the nature,
quantity and level of the firm to firm contacts, the frequency of contact and the
richness of each interaction. For instance, the results here indicate that in the
evaluative stage, auto assemblers transferred their engineers to their component
supplier’s plants and that social interaction took place between the supplier’s product
development team and the assembler’s. The frequency of contact and length of
interactions increased through the stage with more senior operational staff from the
assembler increasingly involved as the importance of the relationship and the
subsequent reciprocal trust levels increased. Our results indicate that the receipt of
tacit technology depends significantly on such relational ties and therefore supports
work by several authors (Hansen, 2008; Szulanski, 1996; Uzzi, 1996, 1997). The
findings suggest that relational ties developed during from the interactive stage
onwards aid the development of a common purpose. The intra-firm best practice
transfer study of Szulanski (2000), and inter-firm technology transfer study of
Duanmu and Fai (Duanmu & Fai, 2007), and Giannakis (2008) did not document
whether relational ties developed during their ramp-up and developing stage of
technology transfer or not. This study contributes to this line of literature by
identifying that relational ties begin to develop in the interactive stage and indeed are
a key signifier of arrival at this stage.

The teleological nature of the stage is further supported by evidence that not
all respondents who made it into stage two progressed to stage three. Unlike the
qualification for the progression from stage one to stage two, the criteria seemed
highly tacit and based on relational strength as much as on operational factors. Suppliers who have made it to the interactive stage would seem to be treated as key suppliers by the assemblers in the terms used by Makkonen & Olkkonen (2013).

4.1.3. The interactive stage

In the final stage of the supplier development process, the interviewees from the supplier-side stated that during this stage, their component development staff had received quality related training along with factory visits to the assemblers’ home country (Japan). There is therefore a distinct increase in both F2F contact and two-way communication focused increasingly on improvements in quality delivery and flexibility (supporting findings by Krause, Handfield, & Tyler, 2007). Contacts between companies increasingly became multi-layered, with multiple contacts between different parts of the two organizations, increasingly involving senior management from Japan as well as local operational staff from the assembler. Indeed such multi-layered contacts are an important indicator of the stage (fig 1: column 4). However, progression to this stage is not as distinct as that between the qualifying and evaluative stages. The increasing tacit knowledge is confirmed by the following respondent.

“We are going through the learning curve by virtue of our own experiences.” [Product Design Engineer – Component supplier 9]

The transfer of strategically sensitive codified information is a second key indicator of the stage. One of the assembler’s managers suggested:

“You share knowledge or a secret with your close associates who you know will not turn their back on you, and in the case of our suppliers, we know through our dealings and social interaction who to transfer this technology. After all, technology cannot be
freely transferred to every supplier. In our relationships with our suppliers, we evaluate them very carefully and then we make the judgment who is reliable and trustworthy for our technology.’” [Manager Supply Chain- Assembler firm 3]

It seems apparent from the preceding and following quotes that multi-layered contacts including facilitation of buyer-supplier-supplier triadic relationships by the buyer, and the transfer of sensitive information were all temporally linked, and therefore definers of distinct stage in the process.

“‘Once our clients [assemblers] realised that we can develop this part for them... they were more willing to provide on the job quality related trainings to our staff and invited us to visit the factories in Japan to see the actual product development and quality assurance system at work’”. [Deputy Managing Director – Component supplier 1]

Results here also suggest that during this final stage, the assemblers were more willing to assist those suppliers who were able to develop the parts. However, the suppliers were regularly audited to ensure that they met the assemblers’ quality requirements. The key factor in improving the absorptive capacity of the suppliers seemed to be the increasing relational interaction with the assembler firms. As one of the respondent said:

“‘We have come a long way; ... Now we know our client’s [assembler’s] staff and management on personal basis. We attend each other’s social functions and this personal relationship is always helpful when you are in a weak position and want to gain something from the strong partner. I must say that personal ties have helped us and many other suppliers I personally know through our suppliers association in getting this technology from our clients... though this technology is still in the standard form... at least we have received something due to this personal relationship with the clients’”. [President and CEO- Component supplier 38]

Our results also suggest that in the interactive stage, assemblers also provided assistance to link up some of the Pakistan’s local suppliers to their networks first tier
suppliers based in Japan (fig.1: column 4). The development of a buyer-supplier-supplier triadic relationship are a third key indicator of the stage. As one respondent from an assembler states.

‘‘Our firm has played an important role as a facilitator and mediator of technology transfer to Pakistan-based suppliers. As you can see we have a good business relationship based on mutual trust and durable relationships with our tier one suppliers in Japan and elsewhere in the world. Using our relationship leverage we acted as a facilitator in linking up our local suppliers with our first tier suppliers in Japan…. As you can see without our assistance those first tier suppliers based in Japan were reluctant to transfer technological knowledge to Pakistani suppliers’’. [Deputy Manager Supplier’s development – Assembler firm1]

…and comments by supplier firms’ support this perception by the assembler firm.:

‘‘Our company is making electrical parts for our client and we have joined hands, I mean technical collaboration with a leading Japanese electrical components supplier. This process was initiated by our client [assembler]. The assembler played an initiator and facilitator role for this transfer. All our communications and agreement took place with the help of our client’’. [Manager Product Development- Component supplier 19]

‘‘Our clients are willing to initiate the technology transfer dialogue with their first tier suppliers in Japan’’. [Director Planning and Operation – Component supplier 22]

Similar to the evaluative stage, relational ties are key in the interactive stage.

However, these comments highlight the increasing complexity of the relationships between the buyer and supplier and the increasingly strategic importance of the relationship to both the supplier and the buyer. Trust is clearly in place allowing the buyer to connect the Pakistani supplier to first tier suppliers in the buyer’s home country (Japan). Three stages of supplier development can therefore be distinctly defined. However, it is questionable whether from the perspective of the supplier that the first stage can truly be classed as part of a supplier development programme as
little development seems to take place. Due to the relative newness of the investments in Pakistan, it is possible that a distinct final degenerative stage might at some point be discernable. Alternatively, there are brief mentions by respondents as to the potential future needs for vertical integration with assemblers or possible supplier-supplier or supplier-supplier’s supplier alliances to counter the negative asymmetry in their relationships with assemblers. However, these were not apparent at the time of the fieldwork. Three stages are therefore identified, but others may emerge over time.

5. Discussion

Our findings empirically support the conceptual model presented in fig. 1. We additionally identify in Table 2 a further series of operational indicators of each stage of the supplier development process.

[Insert Table 2 about here]

5.1: Theoretical implications

The gaps and weaknesses identified in Section 2 of the paper pertain to both the context and content of current SDP literature. To the authors’ knowledge, the paper provides the first reading of of SDPs in the Pakistani context. The findings of the paper mark a rare attempt to explore the dynamics of SDPs between international exchange partners. Moreover the specific context of developed country investors and domestic developing country suppliers brings SDP research firmly into the domain of international business in an economic context of some contemporary concern to international business scholars. Beyond spotting gaps in the literature, the authors also utilise the concept of problematization and rather than test cause and effect models as had been the prevailing trend in most SDP research, have instead sought to reveal
process rather than variance. The findings contribute to a broader understanding of strategic processes across many business sub-disciplines.

The content of SDPs have been conceptually underexplored. By examining many of the variables studies under a cross-sectional lens, it has been possible to propose that the temporal dynamics of many of these constructs have escaped capture in these studies. For instance, it seems apparent that a lack of absorptive capacity is a significant constraint to suppliers in stage 1 of the SDP but has improved by stage 3. This early lack of absorptive capacity seems particularly affected by the developed-developing country nature of the exchanges. The one-way nature of the communication from buyer to supplier in stage one and the transactional orientation of the assemblers in stage 1 make it difficult for the Pakistani suppliers to improve their absorptive capacity during stage 1. Findings as to the importance of recipient’s absorptive capacity during an initial stage are also in contrast to the previous processual studies (Bresman, Birkinshaw, & Nobel, 1999; Szulanski, 1996) which have suggested that recipient’s absorptive capacity is important factor only during the later stages of knowledge transfer. Arroyo-Lopez, Holmen and Boer (2012, p.702) highlight the importance of the need for feedback during initial evaluation in the dynamic between a developed firm setting up operations in a developing economy “where they have to rely on local and inexperienced suppliers, unfamiliar to the buying firm”. However, evidence of such feedback was only identified in stage 2 in this study.

Certain of the paper’s findings would not have been possible by adopting a wholly supplier or buyer based investigation. For instance, in Stage 1, a significant perception gap between suppliers and buyers was identified, a contradiction strong
enough to challenge whether a supplier ‘development’ programme actually exists in Phase 1. This has allowed a pertinent question to be raised as to whether a supplier development programme must manifest both transactional and relational facets in each phase of its inception, or whether one or the other might only be needed in each phase, or if both need only to be evident at some point in the process for it to be labelled as a supplier development ‘programme’. The findings suggest that the construct of relational orientation advanced in some studies (Arroyo-Lopez, Holmen, & Boer, 2012; Mahapatra, Das, & Narasimhan, 2012) has temporal dynamics and may be subject to a perception gap. Japanese suppliers clearly see Stage 1 as ‘development’ whereas Pakistani suppliers clearly do not.

The findings have both strategic and ethical implications for practice. Lu, Lee and Cheng (2012) propose that supplier development practices in developing markets by developed country investors should be a facet of the investor’s social responsibility. However, there is little evidence in the accounts of suppliers to support the existence of perceived altruism on the part of the foreign investors – any sense that actions have been taken or knowledge transferred by the buyer purely for local economic development purposes. Actions by the assemblers in stage 1 seem instead to have a pragmatic, strategic underpinning. However, it is possible that Japanese assemblers see CSR mainly in terms of maintaining fair competition and therefore avoiding anti-trust issues when dealing with suppliers in stage 1 (a point alluded to by Fortanier & Kolk, 2007).

The findings of the paper also highlight the situational specificity of dependence in emerging markets undertaking liberalisation. Several suppliers point to the lack of local content requirements as a reason for the assembler’s transactional
orientation in stage 1. There are however, strategic implications for buyer practice as this orientation clearly leaves an unpleasant relational residue behind, in both suppliers’ being rejected and those progressing to stage 2 - a sense of opportunism on the part of the assembler’s due to the dropping of local content requirements. When a relational orientation is introduced in stage 2, it therefore begins with ‘baggage’ and this would seem to have implications for relational strength in later stages of the programme for any subsequent key supplier development imitative on the part of the assembler.

In phase 2, the assemblers seem more willing to meet local suppliers face-to-face and there is clear support in the findings for prior research that has suggested that the technology transfer process is facilitated by frequent and rich communication and interaction (Bresman, Birkinshaw, & Nobel, 1999; Prahinski & Benton, 2004; Szulanski, 1996). The findings again reveal that the construct of relational capital (Krause, Handfield, & Tyler, 2007) gains strength as relationships in programmes build, and seems absent in Stage 1. Value co-production (Lakshman & Parente, 2008) Seems to begin in earnest in Stage 2 with supplier initiated development initiatives (Carr et al., 2008) apparent from Stage 2 and staff transfers (Wagner, 2006; Wagner & Krause, 2009) evident in Stage 3. Buyer initiated buyer-supplier-supplier relationships (Ho, 2013; Wu & Choi, 2005; Wu, Choi, & Rungtusanatham, 2010) are evident only in Stage 3 of the process.

5.2. Managerial implications

The paper has presented a number of findings that have implications for managers in any SDP context. By exploring process, the assumptions that many factors are
temporally static have been challenged and instead, their importance relative to different stages of an SDP has been identified. Managers in buyer companies should be aware of these time based relativities when planning SDPs. However, particular implications for the management of SDPs and FDI between developed country investors and a developing country supplier can also be isolated. In particular, Stage 1 of the model introduced seems to be distinctive to that characterised in other research. Japanese assemblers seem to interpret CSR as ensuring fair competition, rather than interpreting responsibility more broadly as an obligation to up-skill the knowledge base in a developing economy. The impact of this transactional orientation when read from the Pakistani supplier’s perspective is negative and leaves them quite resentful. This has managerial (buyer-side) implications for the management of FDI related SDPs in emerging countries. One interpretation of CSR obligations could be to help local firms catch-up, rather than rigorously evaluate and eliminate. The later strategic imperative to build relationships with suppliers may be enhanced by adopting a more enlightened relationship orientation in Stage 1 whilst at the same enhancing CSR credentials. Is therefore in the early stages of FDI related SDPs that the most distinctive management implications over domestic and perhaps developed-developed country SDPs. Particularly in the early stage of an SDP with large power and knowledge asymmetries, perception gaps seem significant and awareness of this danger may in itself help managers to close this gap.

The findings would seem also to have resonance for development practitioners in developing economies. FDI has been found to have mixed results in terms of positive spill-overs (Driffield & Love, 2007; Keller & Yeaple, 2009; Moran & Blomstrom, 2005; Stehrer & Woerz, 2009) and therefore, in assuring the effective
formation of relationships and early transfer of knowledge in SDPs may be a useful tool in a developers tool-box.

5.3. Limitations and future research directions

Since conceptual development in international SDPs is very limited, further research that explores the different tensions and dilemmas that exist between developing-developing, developed-developing and developed-developed SDPs; against which the findings of this paper can be fully contrasted and compared. To fully capture the temporal dynamics of SDPs in different international contexts, further development of the strategy as process tradition in SDPs is needed. The findings of this paper are therefore limited by the lack of comparable studies. The context of this study also includes a period of time immediately post removal of local content requirements. In order to better understand how they affect relational, knowledge and power asymmetries, there would seem to an opportunity for IB scholars to further study SDPs pre and post removal of these requirements in the context of developing markets. Of further value would be to extend such processual study to also include the study of strategic practice (Jarzabkowski, 2004; Jarzabkowski, Balogun, & Seidl, 2007; Whittington, 1996, 2006, 2007).
An investigation of the cross-border supplier development process: problems and implications in an emerging economy

Tables & Figures

Table 1: Interviewees’ Profiles

<table>
<thead>
<tr>
<th>Job Title</th>
<th>No of Interviewees</th>
<th>Average no of years in current Position</th>
</tr>
</thead>
<tbody>
<tr>
<td>President/CEO</td>
<td>15</td>
<td>15.80 Years</td>
</tr>
<tr>
<td>Senior Vice President</td>
<td>4</td>
<td>9.78</td>
</tr>
<tr>
<td>Managing Director</td>
<td>15</td>
<td>8.45</td>
</tr>
<tr>
<td>Operations Manager</td>
<td>7</td>
<td>7.85</td>
</tr>
<tr>
<td>Manager Product Development</td>
<td>4</td>
<td>7.25</td>
</tr>
<tr>
<td>Director Technical</td>
<td>5</td>
<td>8.50</td>
</tr>
</tbody>
</table>

Table 2: Key operational features at each stage of the three stages.

<table>
<thead>
<tr>
<th>Key stages</th>
<th>Qualifying Stage</th>
<th>Evaluative Stage</th>
<th>Interactive Stage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prequalification/selection of the key suppliers</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Provided parts drawings to the suppliers</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Explicit knowledge- product-related)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Suppliers develop the prototype</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Testing of the part</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Assemblers provide parts detail specifications (Explicit knowledge)</td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Quality parameters established</td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Assemblers provided some technical information, tools and advice on machinery (Tacit knowledge- Process related)</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Suppliers developed the final localized component (part)</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Assemblers provided quality related training to suppliers’ staff</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Suppliers’ management get training and factory visits to the assemblers home country (Japan) (tacit &amp; explicit knowledge)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mediator and facilitator roles established</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Regular audits</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Buyer-supplier-supplier exchange facilitated by assembler</td>
<td></td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>
Stage 1
Qualification stage
- Codified knowledge transfer
- Uni-directional communication (buyer to supplier)
- Arms-length interaction

Stage 2
Evaluation stage
- Tacit and codified knowledge transfer
- Bi-directional communication
- Face-to-face contact between buyers and suppliers

Stage 3
Interactive stage
- Sensitive information transfer
- Network connectivity
- Multilevel face-to-face contact

1. Non-progression consequences
2. Orientation
3. Supplier development stage
4. Key signifiers
5. Progression criteria

Progression due to qualifying conditions being met
Progression due to relational strength

Figure 1: Overview of key elements in the supplier development process
Bibliography


Li, W., Humphreys, P. K., Yeung, A. C. L., & Cheng, T. C. E. (2007). The impact of specific supplier development efforts on buyer competitive advantage: an


