

# Cultural adaptation in Chinese-Western supply chain partnerships: dyadic learning in an international context

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## Abstract

**Purpose:** Inter-firm learning, or dyadic learning, has been studied extensively in recent years however very little attention has been devoted to extending the concept to an international context and no formal definition exists. We propose ‘cultural adaptation’ as a special form of international dyadic learning and link it to supply relationship performance.

**Design/methodology/approach:** Case studies in four Chinese-Western buyer-supplier relationships, providing cross-case replication, employing qualitative and quantitative methods. Data are triangulated by questionnaires, semi-structured interviews, and documentation.

**Findings:** Qualitative and quantitative evidence shows that cultural adaptation can lead to mutual benefits (relationship rents) and inbound spillover rents for both parties in a supply relationship.

**Research limitations/implications:** Using four cases and a small sample of key informants completing the questionnaire limits generalisability of findings.

**Practical implications:** 1. We develop the causal relationship between cultural adaptation and mutual benefits motivating managers to adapt culturally. 2. We emphasize that the current relationship performance measures should include *guanxi* quality in order to adapt to the Chinese context.

**Originality/value:** Building on Extended Resource Based Theory, stating that strategic resources may lie beyond a firm’s boundary and that relational and inbound spillover rents may be obtained from the relationship, the research contributes to dyadic or inter-organisational learning literature by empirically building causal relationships between cultural adaptation (as a form of international dyadic learning) and associated mutual benefits (relational and inbound spillover rents), using multiple data sources and methods and tentatively redefining the dyadic learning concept.

**Keywords** Cultural adaptation; dyadic learning; mutual benefits; ERBV; multiple case studies,

**Paper type:** Research paper

## Introduction

In 2010, foreign direct investment (FDI) in China rose to a record \$105.7 billion, underscoring international confidence that rising incomes would boost demand in the world's fastest-growing economy (Bloomberg News, 2011). North America and the European Union were the two largest foreign investors (Davies, 2010). Over half of the funding went into manufacturing industries. China is the largest and one of the most rapidly developing centres of production in the world (Salmi, 2006; Lee and Humphreys, 2006; Nassimbeni and Sartor, 2007).

International economic development such as this naturally increases the importance of managing global sourcing and supply chains effectively (Christopher *et al.*, 2007). Flint *et al.* (2008) argue that the dynamic global marketplace forces supply chain managers continuously to revisit and alter strategies and tactics for meeting customers' expectations. Developing the skills and knowledge that are needed for this increased effectiveness requires learning in the supply chains or at least the dyadic learning.

The focus for our research is the Chinese-Western dyadic relationship in a supply chain which connects several Chinese manufacturers with a Western OEM. We term this the 'principal' relationship, or dyad: it is often the initial building block of an international supply chain or network. We focus on cultural adaptation as a form of dyadic or inter-firm learning since, when it is present in the relationship on which we focus, it can lead to the development of learning further back along the supply chain (i.e. within Chinese suppliers and their relationships).

Cheung *et al.* (2010) point to a dearth of research regarding learning between business partners in a cross-border setting, concluding that understanding of dyadic collaboration across borders remains limited. Our study is a response to this call. We study the phenomenon of dyadic learning in Western buyer and Chinese supplier relationships, examining it from the perspectives of both buyers and suppliers.

Elsewhere, (Authors 2010) we have provided a link between cultural adaptation (as a form of international inter-firm learning) and partnership performance (using mutual benefits as a proxy) and an associated model. We employ this model, empirically exploring the association between cultural adaptation in Western buyers and Chinese suppliers and associated mutual benefits and any other benefits obtained. The association that is identified is then used to develop the dyadic learning concept further.

Based on the literature review and the conceptual model, our Research Questions were developed as follows:

1. *Can cultural adaptation in Chinese-Western supply relationships lead to mutual benefits and inbound spillover rents for both parties?*
2. *How might the dyadic or inter-firm learning concept be developed by exploring cultural adaptation and mutual benefits in supply relationships?*

Inbound spillover rents can be explained as benefits gained through internalizing the skills of a partner. This concept will be elaborated further in the next session.

The rest of the paper is structured as follows. First, we establish our theoretical background by reviewing the literature on inter-firm/dyadic learning and mutual benefits and introduce the conceptual model. Then we justify the case study method and present research design. Third, we present and discuss both within case and cross case analysis findings. Finally, we conclude the paper with contributions to theory and practice, limitations and future research directions.

## Theoretical background

### *Inter-firm or dyadic Learning*

Research on organisational learning has focused principally on intra-firm processes (Bessant *et al.*, 2003). There is no formal definition of inter-firm learning as it may be assumed to be self explanatory i.e. learning occurring at an inter-firm level. In fact it appears to be more complex than this. Inter-organisational or inter-firm learning (Powell *et al.*, 1996; Lane and Lubatkin, 1998) has been addressed however under a variety of headings (see Levinson and Asahi, 1995) including ‘inter-partner or alliance learning’ (Hamel, 1991; Inkpen and Tsang, 2007), ‘cross-border learning’ (Li, 2010), and ‘relationship learning’ (Jean *et al.*, 2010; Cheung *et al.*, 2010). All these terms focus on the performance or efficiency of a dyad between one buyer and one supplier and may be termed as ‘dyadic learning’. Therefore, inter-firm and dyadic learning are used interchangeably in this paper.

Building on the Resource-Based View (RBV) of firms, in a supply chain context, Hult *et al.* (2003:542) describe learning as an “intangible resource ... deeply embedded in the fabric of the supply management system” concluding that learning, comprising team, systems, learning, and memory orientations, is a strategic resource within supply management.

Criticism of the limited, internal focus of RBV led to the emergence of the Extended Resource-Based View (ERBV). ERBV scholars posit that: both internal and external capabilities are important to firm’s performance (Das and Teng, 2000; Mathews, 2003a, b; Araujo *et al.*, 1999); the nature of relationships may matter more than the nature of resources in networked environments (Lavie, 2006); external relationships serve as vehicles to acquire resources that may fill particular resource gaps and mobilize resources that have traditionally been considered immobile (Spekman *et al.*, 2002; Squire *et al.*, 2009; Lavie, 2006); strategic resources lying beyond the boundaries of the firm can be used to generate ‘relational rents’ (Dyer and Singh, 1998; Lewis *et al.*, 2010; Lavie, 2006).

Hamel *et al.* (1989) referred to learning beyond organisational boundaries as ‘alliance learning’ (effectively from an ERBV viewpoint) and viewed alliances as opportunities to learn, concluding that a firm’s primary goal in allying is to internalize the skills of a partner. However, Lavie (2006: 647) sees this as only one of four types of rent: the so-called ‘inbound spillover rent’ (Tollison, 1982) for the firm, “exclusively derived from network resources and [pertaining] to unintended gains owing to both shared and non-shared resources of the alliance.” This is akin to Cohen and Levinthal’s (1990) concept of ‘absorptive capacity’ – a measure of the organisation’s capacity for learning from outside its borders. Lichtenthaler and Lichtenthaler (2009) took this concept further, developing the related concept of ‘desorptive capacity’ (the ability to share learning externally) linking it to knowledge capacity management and developing a useful capabilities framework.

In a similar ERBV vein, Cheung *et al.* (2010) consider learning competency a critical resource for firms competing in a global context: a unique bundle of idiosyncratic resources controlled by strategic alliances that can create mutual benefits for buyers and suppliers. Lavie labels such mutual benefits as ‘appropriated relational rent,’ defined by Dyer and Singh (1998) as a common benefit that accrues to alliance partners through combination, exchange and co-development of idiosyncratic resources. According to

Lavie (2006), this type of rent cannot be generated individually by either alliance partner and is overlooked by the RBV. We focus on this rent in the form of mutual benefits, providing measurement criteria for relationship performance. The other two types of rent (Lavie, 2006) are ‘internal rents’ (private benefits enjoyed exclusively by the firm and derived from its own resources) and ‘outbound spillover rents’ (resources of the firm that are subject to unintended leakage that can provide benefits to the alliance partners).

Of the definitions that could be said to relate to dyadic or inter-firm learning (Hamel, 1991; Powell *et al.*, 1996; Bessant *et al.*, 2003; Flint *et al.*, 2008; Chueng *et al.*, 2010), we conclude that only the Cheung *et al.* definition links it to relational outcomes. We argue that dyadic learning should be expected to lead to mutual benefits or relational rents for supply chain partners.

Next we shall develop the argument that cultural adaptation is a form of international dyadic learning.

*Cultural adaptation as dyadic learning in an international context*

In this section we review literature on international inter-organisational/inter-firm learning and cultural adaptation and then compare the two. Table 1 summarises the work of a number of authors on inter-organisational learning. None of these previous conceptual discussions covered the learning of cultural differences or cultural adaptation. Jia and Rutherford (2010) are alone in classifying national cultural differences as a form of supply chain risk and cultural adaptation as mitigation for it.

Boisot and Child (1999) describe international strategic alliances in China as ‘adaptive systems in complex environments.’ They observe that, in order to reduce the environmental complexity, Western multinationals often choose first to apply their standard policies and practices in China and only subsequently absorb the environmental complexity of doing business there through enlisting the support of local allies. Salmi (2006) explores this further, positioning social skills and an understanding of Chinese cultural knowledge as key competencies for Western firms hoping to overcome psychic distance and develop relationships in China.

Cultural adaptation has been studied from an individual level (Jun *et al.*, 2001; Jassawalla *et al.*, 2004; Haslberger, 2005) but little has been written at the organisational level (but see Granner, 1980; Boisot and Child, 1999; Lin, 2004; Salmi, 2006). We focus on cultural adaptation at the organisational level.

Francis (1991: 406) defines cultural adaptation as “An attempt to elicit approval from members of a foreign culture by attempting to become behaviourally more similar to members of that culture.” The focus on behaviour rather than values or assumptions, and the aim of eliciting acceptance, suggests that cultural adaptation takes place at the ‘behavioural’ (or visible) level, the highest of the three (behaviour, values/beliefs, underlying assumptions) identified by Schein (1992).

Authors	Key findings
Inkpen and Tsang (2007)	Inter-firm learning in the international context is “complicated [especially] where geographic distance and cultural differences generate additional difficulties and challenges for managers.”
Parkhe (1991)	Diversity (including societal culture, national culture, corporate culture, strategic direction, and management practices) can lead to negative effects on the longevity and effective functioning of alliances but organisational learning and cultural adaptation can mitigate them.

Li (2010)	'Home-host diversity' is a multi-dimensional moderator for cross-cultural learning.
Levinson and Asahi (1995)	Inter-organisational learning in an international context can be developed through four steps: (1) becoming aware and identifying knowledge; (2) transferring/interpreting new knowledge; (3) using knowledge by adjusting behaviour to achieve intended outcomes; and (4) institutionalizing knowledge by reflecting on what is happening and adjusting alliance behaviour.
Jean <i>et al.</i> (2010)	Relationship learning in the international context is "the extent to which the supplier and its international customer work together through the joint exchange of information and know-how, analyzing and solving operational and strategic issues and problems to facilitate communication within the relationship.
Li <i>et al.</i> (2010)	Strategic alliances between cross-border partners can lead to co-specialisation in tacit knowledge and strong, shared trust for long-term commitment.

**Table 1: Previous research on inter- organisational learning and cultural adaptation**

Lin (2004) proposes three levels of cultural adaptation: *understand*, *adjust* and *learn*. First, foreign firms need to understand another culture on its own terms. Second, cross-cultural adaptation may only require a level of adjustment, rather than a change of a party's fundamental cultural assumptions, for smooth interaction. Third, the highest level of adaptation occurs when a party makes a conscious effort to learn from the other party, integrating elements of the other culture into its own. The second of these reinforces our interpretation of Francis (1991) in the context of Schein's 'behaviour' level of culture (Schein, 1992). The third provides a building block for our consideration of dyadic learning.

We conclude that cultural adaptation may be considered a special form of inter-firm learning in an international context, noting that the two processes share many similarities (Table 2).

Hakansson *et al.* (1999) and March (1991) do suggest an overlap between adaptation and learning. Meanwhile, Knoppen *et al.* (2010) argue that learning processes at the levels of the individual, organisation, and the dyad constitute a subset of a broader 'inter-organisational learning' domain that may lead to 'inter-organisational adaptation': "modification of organisational attributes in order to improve the fit with the exchange partner."

<b>Inter-organisational Learning Process Steps Levinson and Asahi (1995)</b>	<b>Cultural Adaptation Levels Lin (2004)</b>
1. Becoming aware and identifying knowledge 2. Transferring/interpreting new knowledge	1. <i>Understand</i> another culture on its own terms
3. Using knowledge by adjusting behaviour to achieve intended outcomes	2. <i>Adjust</i> (behavioural adjustment rather than adjustment of cultural assumptions)
4. Institutionalizing knowledge by reflecting on what is happening and adjusting alliance behaviour	3. <i>Learn</i> : a conscious effort to learn from the other party, integrating elements of the other culture into its own.

**Table 2: Common processes- Inter- organisational learning and cultural adaptation**

Next, we summarize a list of performance measures for mutual benefits or relational rents.

*The mutual benefits of cultural adaptation, relationship performance and relational rents*

In proposing that cultural adaptation, as a learning process, can mitigate negative impacts caused by cultural differences in supply chain relationships, we are suggesting that it can generate benefits, or relational rents, for the organisations in those relationships. We therefore need to be able to measure relationship performance.

We know that congruence between management practices and characteristics of national culture (an outcome of cultural adaptation) can produce better performance (Newman and Nollen, 1996). Molinsky (2007) concludes that cultural adaptation can increase trust and positively affect an organisation's success and Child (2001) finds the same effect from mutually beneficial learning. Francis (1991) and Pornpitakpan (1999) both recognise that cultural adaptation improves attraction, leading to benefits in a relationship.

Chan *et al.* (2003) classify performance measurements into two natures: qualitative (e.g. measuring customer satisfaction, flexibility and effective risk management) and quantitative (e.g. cost, customer responsiveness and productivity). Myhr (2001) proposes two measures of partnership performance, both considered perceptual and qualitative:

- Relationship effectiveness: how productive and worthwhile partners find the relationship in terms of commitment, productiveness, rewards, satisfaction and increased levels of supplier expertise.
- Cost reduction benefits: how the relationship enables parties to generate benefits through reduced operational costs in terms of end-product manufacturing cost, coordination costs, and streamlined practice.

Myhr identifies 'cooperative sentiments' (relationship commitment and trust) and 'cooperative behaviours' (flexible adaptation and collaboration) as intermediate variables. Walter *et al.* (2003) propose that commitment, trust and satisfaction are 'relationship quality' measures (describing commitment as a lasting intention to build and maintain a long-term relationship). Satisfaction is defined as a positive, affective state resulting from the appraisal of all aspects of the working relationship. Trust, a critical element in social exchange relations (Hallen *et al.*, 1991), has been defined as the perception of confidence in the exchange partner's reliability and integrity (Morgan and Hunt, 1994). Myhr (2001) defines collaboration as the degree to which partners work together in a joint fashion toward their individual and joint goals. Finally, Heide (1994) describes flexible adaptation as the extent to which partners adapt their behaviours to environmental changes, for the benefits of both parties.

Since our context is Chinese-Western, it is necessary for us to explore the Chinese social capital system known as *guanxi*. The term *guanxi* generally refers to relationships or social connections based on mutual benefits (Yang, 1994). This includes the bond between exchange partners that is associated with exchange of favours and mutual obligations (Luo, 1997).

Chen and Chen (2004) propose the concept of 'guanxi quality' as a measure of trading relationships in China. This is linked to the distance between the *guanxi* (supply) partner, located in the psychological *guanxi* network space (supply chain), and the centre of the space where 'self' is located. It describes the subjective judgment made by the *guanxi* parties regarding the current state of their *guanxi*. Chen and Chen draw three circles to describe *guanxi* space or *guanxi* bases: *jia-ren* (kinship), located in the inner circle, *shou-ren* (familiar) in the middle, and *sheng-ren* (stranger) in the outer circle. The more central the *guanxi* party is in the *guanxi* space the better the *guanxi* quality. We can use *guanxi* quality as a relationship performance measurement.

Drawing the literature together, we propose seven types of mutual benefit that may be used to provide qualitative, perceptual partnership-performance measures for a relationship between a Western buyer and a Chinese supplier:

- Cost-reduction benefits (Myhr, 2001)
- Relationship effectiveness (Myhr, 2001)
- Flexible adaptation (Myhr, 2001; Angerhofer and Angelides, 2005)
- Collaboration (Myhr, 2001)
- Commitment (Myhr, 2001; Walter *et al.*, 2003)
- Trust (Myhr, 2001; Walter *et al.*, 2003)
- *Guanxi* quality (Chen and Chen, 2004)

Previous studies on the relationship between inter-firm learning, cultural adaptation and performance are summarized in Table 3. There are clearly some gaps in this research. First, most studies employed survey and modelling methods, providing only hard measures, or none at all, for an individual firm's performance. Only four out of the 24 studies adopted case study methods. Second, there were diverse theoretical lenses (two studies implicitly used ERBV without identifying it). Third, most studies examined performance of the firms (normally Western multinationals); few considered the perspectives of both buyers and suppliers and examined relationship performance or relational rents. Fourth, most were USA or UK studies; only three focused on Chinese-Western relationships, all of which provided no performance measures for the relationships. Our research addresses these gaps.

Study	Approach	Theoretical lens	Context	Measurements type
Hamel (1991)	Multiple case studies	A skill-based view of the firm	9 Euro-Japanese alliances	N/A
Francis (1991)	survey	Social identify theory	Managers from different countries	Social identify measures (attraction)
Shamdasani and Sheth (1995)	Experimental role playing	Relationship exchange theory	USA study	Perceptual relationship measures
Powell <i>et al.</i> (1996)	Survey	Social network theory	USA study	Network measures (e.g. centrality)
Walton (1996)	Survey	TCE	USA study	Partnership satisfaction
Dyer and Singh (1998)	Conceptual	Relational RBV/ERBV	USA study	Relational rents
Lane and Lubatkin (1998)	Survey	Strategic alliance learning	USA study	Inbound spillover rents
Boisot and Child (1999)	Modelling	Institution and complexity theories	Sino-West relationships	N/A
Liu and Vince (1999)	Multiple case studies	Organisational learning/Hofstede cultural index	Sino-West joint ventures	N/A
Pompitakpan (1999)	Survey	Social identify theory	USA -Thai relationships	Social identify measures (e.g. attraction)
Child (2001)	Conceptual	ERBV	N/A	Relational rents
Myhr (2001)	Survey	TCE	Nordic multinational corporations	Perceptual relationship measures of partnerships
Spekman <i>et al.</i> (2002)	Survey	Organisational learning	North America, South America and Europe	Hard measures of focal company performance and relational rents (customer satisfaction)
Bessant <i>et al.</i> (2003)	Multiple case studies	Lean supply; inter-firm learning	6 UK supply chains	Hard measures on supply chain member performance
Chan <i>et al.</i> (2003)	Modelling	System dynamics thinking	N/A	Both hard and soft measures
Hult <i>et al.</i> (2003)	Survey	RBV	USA study	Inbound spillover rents
Walter <i>et al.</i> (2003)	Survey	TCE	German firms	Relationship quality
Angenhofer and Angelides (2005)	Modelling	System dynamics thinking	N/A	Both hard and soft measures
Taylor (2005)	Survey	Strategic alliance learning	UK study	Perceptual soft measures on relationships
Salmi (2006)	Multiple case studies	Institution theory	Sino-West relationships	N/A
Flint <i>et al.</i> (2008)	Survey	Value chain	USA, Sweden and Denmark managers	Perceptual measures on organisational performance
Cheung <i>et al.</i> (2010)	Survey	Transaction value perspective	cross-border dyads	Relational value/rents
Jean <i>et al.</i> (2010)	Survey	RBV	cross-border dyads	Hard measures of focal company performance
Li <i>et al.</i> (2010)	Survey	Transaction value perspective	Chinese firms	Innovativeness of Chinese suppliers

**Table 3: Dyadic/inter-firm learning studies**

We now turn to the conceptual model that guided our data collection.

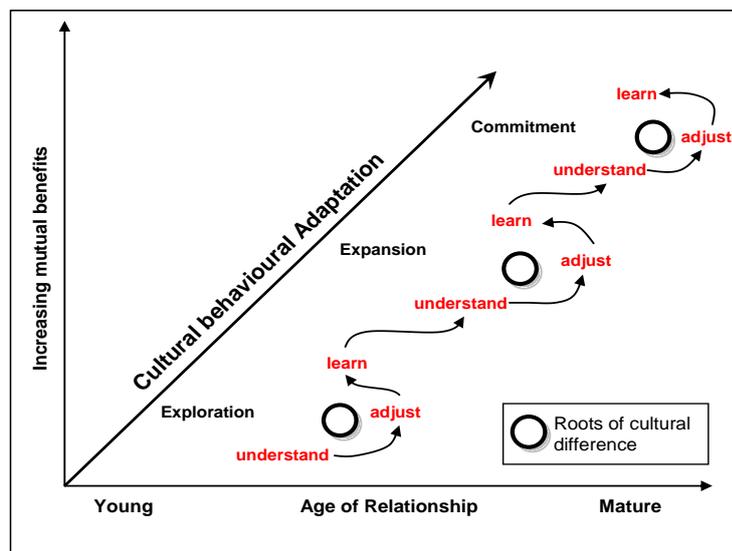
### Conceptual Model

We focus on close business relationships (as opposed to ‘arm’s length’ or adversarial relationships). Of the many conceptualisations for such relationships ‘partnership’ is the term most commonly used in the supply chain management literature and has been researched exhaustively. Lambert *et al.* (1996) defined partnership as: “A tailored business relationship based on mutual trust, openness, shared risk and a shared reward

that yields a competitive advantage, resulting in business performance greater than would be achieved by the firms individually.”

Doz (1996) and Iyer (2002) have shown that the strength of alliance can grow over the life of a partnership and that learning occurs at the same time. To support cross-case comparison, and to understand these concepts, we need a relationship-stage model to track the evolution process from, say, early to mature. Jia and Rutherford (2010) provide such a model, based on the life cycle of a leadership maturity model (Graen and Wakabayashi, 1994) and Dwyer *et al.*'s (1987) core phases. A three-stage relationship evolution process is developed and combined with a model of cultural adaptation (Figure 1):

- *Exploration (Stranger)*: initial relational exchange; parties are at an exploratory stage in their evolving relationship; still considered strangers.
- *Expansion (Acquaintance)*: the relationship expands: increased interdependency and growing mutual benefits.
- *Commitment (Partner)*: the relationship matures; parties realise benefits of strategic partnership. Characterized by trust and commitment.



**Figure 1: Conceptual model for causal relationship between cultural adaptation and mutual benefits**  
(Adapted from: Jia and Rutherford, 2010)

Jia and Rutherford identify three root cultural differences between China and the West as issues for cultural adaptation or international SCL:

- *Family orientation vs. self interest*: family orientation is a form of collectivism (Yang, 1992). The Chinese tend to place group or family goals and collective action ahead of self-interest, gaining satisfaction and feelings of accomplishment from group or family outcomes. In the West, self-interest is put higher than group interest. Whether or not one can pursue self-interest is determined by power dependence because power resides in another's dependence (Emerson, 1962).
- *Guanxi network vs. multiple institutions*: Parnell (2005) sees *guanxi* networks as the most important informal institution in the Chinese-speaking world. Xin and

Pearce (1996) class them as a substitute for formal institutional support. Western organisations meanwhile are governed by multiple institutions i.e. there are formal constraints over a market economy (Luo, 2000; Xin and Pearce, 1996).

- *Guanxi relationship-building process (GR) vs. Western relationship-building process (WR)*. This difference is divided into four sub-differences:
  1. GR is very flexible. WR is typically linear, or ‘step-by-step.’
  2. GR is based on *yin-yang* principles; when relationships conflict only two movements are available to either party: to ‘push or pull the door.’ The Chinese adopt a ‘yielding’ strategy: if the other party tries to attack or ‘push’ then the Chinese ‘pull’ and *vice versa* (Strutton and Pelton, 1997). WR adopts a Western dualistic thinking (‘black and white’) in which they normally consider things one way or the other (De Bono, 1991). If relationships conflict, Westerners tend not to avoid but maintain their position (Strutton and Pelton, 1997; Hammell, 2006).
  3. *Guanxi* is essentially personal and informal (Luo, 1997; Parnell, 2005) while Western relationship building is based on economic principles (see Williamson, 1985). Networking in the West is normally associated with commercially based corporate relations - essentially formal (Luo, 2000).
  4. According to Hofstede (1991), China scores high in long-term orientation whereas Western countries score low. These orientations have been observed in relationship building (Styles and Amber, 2003).

The conceptual model suggests that as a relationship evolves from young to mature (‘Exploration’ to ‘Commitment’) individuals who work closely with the other party, at the organisational interface, engage in the cultural adaptation process. This process involves cultural behavioural adaptation as members of each culture attempt to become behaviourally more similar to members of the other culture (Francis, 1991), creating mutual benefits for the supply chain partnership.

From this we derive the proposition that we shall test: *The more the relationship evolves from Exploration to the Commitment stage, the more both parties adapt to each other culturally, and the greater the perceived mutual benefits.*

## **Methodology**

### *Research approach and design*

We seek to fill gaps identified in previous dyadic or inter-firm learning studies (Table 3). We adopted a retrospective multiple case study method, widely accepted as a good method for building or extending theory (Eisenhardt, 1989; Voss *et al.*, 2002; Yin, 2003). Our purpose is to build and extend inter-firm/dyadic learning theory to an international context, in particular, a China-West context. Case studies are also appropriate for our focus on process, our wish to collect both qualitative and quantitative data, and for cross-cultural research (Ghauri, 2004; Marschan-Piekkari and Welch, 2004).

This paper is anchored in the ERBV perspective, suitable for research on supply relationship. This allows us to adopt qualitative measures to explore relational rents or mutual benefits.

### *Unit of analysis*

Our focus is not simply the Western buyer or the Chinese supplier but the dyad they form. Our unit of analysis is thus the relationship between a Western buyer and a Chinese supplier, in the context of the supply chain. We focus on the cultural adaptation process, measured in terms of behavioural change in the dyadic relationship in relation to cultural differences between China and the West: a cultural aspect of the dyadic relationship.

*Purposive and theoretical sampling-case selection*

Multiple case studies are regarded as quasi-experimental; an investigator may constrain some variables and focus on others. We employed Eisenhardt's 'theoretical sampling' (1989), selecting cases from both extremes to achieve good theoretical replication (Yin, 2003).

Ten supply relationships were initially identified and eventually four cases were selected. Two were selected with higher levels of cultural adaptation and two with lower levels. Western buyers A and B had achieved 'learn' level while Western buyers C and D had achieved 'adjust' level. Chinese suppliers A & B adjusted better than Chinese suppliers C & D. Therefore we observed that both parties of Cases A & B had adapted better than both parties of Case C & D.

This selection allowed us to compare and contrast the mutual benefits obtained from cultural adaptation, testing for a causal relationship between the two. Six companies were rejected because they did not fit the case selection criteria, or their level of adaptation was between two extremes and not conducive to replication. The selection criteria were:

1. Western large-scale manufacturing firms with an International Purchasing Office (IPO) or equivalent in China, i.e. Western buyers in a mature stage of China sourcing (Nassimbeni and Sartor, 2006) with a purchase scale that justifies significant presence: an IPO (Rajagopal and Bernard, 1993). Large scale manufacturing multinationals tend to have IPOs in China and a longer history of sourcing in China than is found in smaller firms (Nassimbeni and Sartor, 2006).
2. Western buyers with subsidiaries or headquarters in the UK or USA, that deal with the Chinese supplier identified: this reduces variation among Western cultures (Bond, 1996; Pirie, 2007). The Western world, ("the West") has multiple meanings depending on context (Stearns, 2003). One type or branch of Western culture is characterized by Anglo-Saxon capitalism or economy. This refers to a particular culture that strongly features capitalism and Protestantism and is practised in English-speaking countries such as the United Kingdom, the USA, Canada, New Zealand, Australia and the Republic of Ireland (Mitchell *et al.*, 2006). The Western culture indicated in this paper refers to the Anglo-Saxon branch.
3. Partnerships: we sought relationships that had developed into partnerships in order to simplify cross-case comparisons. Relationship durations for the selected cases were between three and ten years. Key informants suggested that it takes at least three years to develop a relationship into a partnership. In a relationship more than ten years old, informants may find it difficult to recall events from the early years.

Outer Contextual Variables	Case A		Case B		Case C		Case D	
	WB-A	CS-A	WB-B	CS-B	WB-C	CS-C	WB-D	CS-D
<b>Geographic location (Subsidiary/HQ/IPO)</b>	USA/USA/Shanghai	Yangzi river delta (near Shanghai)	UK/USA/Shanghai	Yangzi river delta (near Shanghai)	UK/UK/Shanghai	Pearl River delta (South China)	UK/NA/North China	North China
<b>Ownership of Chinese supplier</b>	MNC (Fortune 500)	Private	MNC (Fortune 500)	Private (public listed)	MNC	State owned	MNC (Fortune 500)	State owned
<b>No. of employees</b>	50,000	Over 100	34,000	1,800	2,000	Over 1,000	28,000	15,000
<b>Annual turnover</b>	\$13 Billion (2007)	\$7 Million (2007)	\$14 Billion (2008)	\$14 Million (2008)	\$380 Million (2008)	\$100 Million (2007)	\$9.7 Billion (2008)	No data
<b>Previous experiences</b>	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes
<b>Duration of relationship</b>	3 years		10 years		3 years		3 years	
<b>Industry/product</b>	Mechanical Manufacturing/ Mechanical precision parts		Automotive/ engine cooling system		Printing technology/ Printing machine power supply		Aerospace/Fuselage	

**Table 4: Case demographics**

(Annual turnover for Western buyers indicate that of the company as a whole; Unit: USD)  
(WB represents Western Buyer; CS represents Chinese supplier. MNC: Multinational Corporation)

Table 4 provides demographic information for the selected cases, all of which met the criteria fully.

A questionnaire on partnership characteristics was presented prior to the interviews. Interviewees were asked to rank six statements on characteristics of partnerships, synthesised from three papers: Mohr and Spekman, 1994; Lambert *et al.*, 1996; and Ellram, 1991. The statements related to commitment, information sharing, risk-sharing, a high level of interdependence, compatible goals, and striving for mutual benefits.

The number of responses from each of the cases, A to D, were: 4, 7, 6, 8 respectively. The average scores were: 4.0, 4.2, 4.1 and 3.9, respectively (5: represents strongly agree; 4: agree; 3: neutral; 2: disagree; and 1: strongly disagree). We concluded that interviewees in the four cases firmly agreed that the relationships were partnerships.

### *Constructs*

*Cultural adaptation.* Appendix 1 shows a list of behavioural indicators for differentiating levels: ('no adaptation', 'understand', 'adjust', 'learn'). These identify the levels of each indicator that the key informants had reached in each of the three stages ('Exploration,' 'Expansion' and 'Commitment'). An assessment of levels of cultural adaptation was based on evidence corroborated by at least two informants and checked by two native English speaking academics to ensure construct validity.

*Mutual benefits and performance measurement.* The seven types of mutual benefit, derived earlier, were used to provide qualitative, perceptual measures for partnership performance.

### *Division of three stages (Exploration, Expansion and Commitment)*

Accurate information regarding the division of the relationships into three phases was difficult to obtain. We ensured the validity of this process by interviewing multiple informants from both parties of a relationship and then triangulating the data with documentation from news and company websites (all the companies are high profile companies). This was checked with key informants in each case for validation.

The division into three stages enabled time-ordered display of data and related explanation, and revealed causality; prior events were assumed to have some connection with following events. This is in keeping with Miles and Huberman (1994) who argue that assessing causality is essentially a retrospective matter and qualitative analysis can clarify temporal dimensions either through direct observation or retrospection. This causal relationship needs to be tested through other cases to identify a pattern. We observed a pattern in which mutual benefits were preceded by cultural adaptation e.g. a time lag between them across all four cases.

### *Data collection*

#### *Pre-interview questionnaire*

The interviews were preceded by analysis of historical documents in order to identify the process chronology, transition points and key individuals. A pre-interview questionnaire was sent to each interviewee to assess whether the relationship would fit with the case selection criteria and to test their knowledge of cultural behavioural differences.

### *Semi-structured interviews*

39 semi-structured interviews (60-90 minutes) were completed, recorded and transcribed (May-July 2008). Chinese language transcripts were back-translated by an expert to compare with originals. The interview questions are shown in Appendix 2.

### *Informant selection criteria*

Informants were Sourcing Managers and Buyers in Western firms and top and middle managers in Chinese suppliers. Expatriate managers with experience in China and with Chinese suppliers were treated as key informants. These included Western Procurement Managers, Chinese Sourcing Managers and Buyers in the Western firms, and top management and Account Managers of Chinese suppliers.

To reduce the possibility of respondents not recalling well events that happened years before, at least one informant for each firm involved was selected from those who had stayed for the whole duration of the relationship development. This allowed accounts to be corroborated with those of at least another one informant. This aligns with Huber and Power's (1985) recommendation that if more than one informant per unit of analysis is to be interviewed, informants should be chosen whose unique biases or lack of knowledge are likely to be compensated by those of other informants.

Relationship duration for three of the four cases was three years. It was found that it was not difficult for the informants in these three cases to recall events from up to three years before. Case B's duration was 10 years but the Purchasing Director and Sourcing Manager had joined the WB-B's IPO from the start and all the key informants of CS-B had been heavily involved in the relationship development throughout. Most recalled vividly what had happened 10 years before and their accounts corroborated one another.

### *Survey*

A questionnaire was used to collect informants' perceptions of mutual benefits attained from the partnerships. This recorded when each mutual benefit had been attained and the extent of attainment reached by the time the research was conducted in 2008. The survey questionnaire (Appendix 3) was presented to the interviewees for completion on-site or by emails. 21 questionnaires were collected.

In order to reduce Common Method Variance (CMV), we first adopt multiple sources of data i.e. qualitative (e.g. interviews and documentation) and a survey. Second, we surveyed multiple respondents for each company with each respondent rating mutual benefits based on the supply partnership under investigation. Third, the surveyed constructs were all dependent variables, making it difficult for the respondents to link the independent variables cognitively with the dependent ones. This is recommended by Craighead (2011) as methodological separation: separating dependent and independent variables. Fourth, 10 out of the 21 questionnaires were completed and returned after the interviews were conducted. Surveying independent and dependent constructs at different time can help reduce the CMV (Chang *et al.*, 2010).

We now move on to reporting results.

## **Results: individual case description**

### *Case A: Western Buyer A and Chinese Supplier A*

Western Buyer A (WB-A), a leading industrial company, headquartered in Washington D.C., designs, manufactures and markets innovative products, services and technologies with strong brand names and significant market positions. The company sources mechanical precision machined parts, with low volumes and high product mix, from Chinese Supplier A (CS-A). It was difficult for WB-A to find a qualified supplier in China: the precision parts require significant investment in sophisticated machine tools while the low volume requirements mean large suppliers were not interested. CS-A was initially not interested in WB-A's business. However, WB-A saw CS-A as a supplier with great potential and was motivated to adapt. CS-A gradually realised that the business offered by WB-A would help them to improve their skills and capabilities in production and they became more willing to adapt to the Western customer's rules and procedures. Their relationship at the beginning was unbalanced; WB-A actually had less power even though their business scale was much greater than that of CS-A.

The relationship between WB-A and CS-A started in early 2005. By early 2006, their business had expanded: CS-A saw a significant increase in the number of orders from WB-A due to the customer's satisfaction with the supplier's performance. In 2008, WB-A became the top account for CS-A in terms of revenue contributed, representing about 30% of CS-A's sales income. Both parties purposely engaged resources (a new factory built by CS-A, a designated buyer at WB-A, and training provided by WB-A) and the orders from WB-A were consistent. By 2008, their relationship could be termed 'interdependent.'

#### *Case B: Western Buyer B and Chinese Supplier B*

WB-B is a multinational Fortune 500 company, headquartered in the USA, manufacturing diesel engines and power generators of various kinds. The parts that WB-B sourced from the CS-B in this case formed an engine cooling system, used for a range of engines: high volumes, high product complexity, but low variety.

WB-B and CS-B started trading in 1998. CS-B approached and negotiated with WB-B, with the aim of developing into a 'world-class' supplier. After a tedious and painstaking qualification process, CS-B was successful in 2000. Since 2001, WB-B has significantly increased its orders from CS-B. Their relationship became a partnership and WB-B procured 90% from CS-B thereafter. WB-B was the more powerful party at the beginning of the relationship. Over time, however, the relationship developed to become interdependent; WB-B sourced almost solely from CS-B since 2004 while for the supplier WB-B was still the largest account, even when the WB-B business declined as a percentage of overall sales. Once CS-B had adapted to Western rules and procedures they began to use their improved capability to serve other multinationals, including WB-B's competitors.

#### *Case C: Western Buyer C and Chinese Supplier C*

WB-C, a multinational company headquartered in the UK, is a world leader in inkjet and laser technologies, providing total coding and printing systems.

The relationship between WB-C and CS-C started in early 2005. CS-C is an expert in manufacturing and developing lightweight power supplies for the telecommunications market but had never made industrial power supplies before it traded with WB-C. CS-C had been very keen to penetrate into this market.

WB-C was attracted by and satisfied with the R&D and manufacturing capability of CS-C. It is decided that it could not develop this expertise in-house or obtain it from the

only other supplier of power supplies based in Hong Kong. Accordingly, WB-C transferred its contracts for supply of existing models of power supply from the HK based company to CS-C between 2005 and 2008. Starting in 2007, volume production grew within CS-C for WB-C's three new models of power supply. Their relationship steadily stabilized and both firms were keen to maintain it to each other's satisfaction. The relationship started as 'interdependent'; as their business scale requirements were similar both were motivated to enter into a relationship. As the relationship developed, they increasingly relied on each other (R&D capabilities and new market knowledge) and therefore remained interdependent for the duration of this research.

#### *Case D: Western Buyer D and Chinese Supplier D*

WB-D is a North American Aerospace Corporation and a world leader in the design and manufacture of commercial aircraft. CS-D is a subsidiary of a large, state-owned Aerospace Corporation in North China. The relationship between WB-D and CS-D began in early 2005 when WB-D signed a contract with CS-D to supply aircraft doors. Later this was extended to supplying fuselages.

CS-D's parent company signed a memorandum of understanding with WB-D's parent. This developed the relationship into strategic and long-term cooperation, based on a new aircraft project in June 2007. This meant the relationship entered into the 'Commitment' stage. The relationship was interdependent for the whole duration of the research. WB-D relied on CS-D to reduce production costs in order to maintain competitiveness in the international civil aerospace market (most of its major competitors had sourced from China); CS-D was pursuing its goal of becoming a major international structural supplier by working with WB-D and able to leverage the existing supply relationships with CS-D's competitors.

#### *Rents and benefits gathered from the relationships*

The four partnerships exhibited a high degree of similarity. The Western firms possessed modern manufacturing process-management knowledge and the Chinese suppliers employed low-cost labour at the beginning of the relationships.

In all cases the Chinese suppliers received inbound spillover rents (Western buyers' outbound spillover rent - unintended leakage) by gaining Western manufacturing process knowledge. Western buyers gained the inbound spillover rents of low-cost production.

CS-A was not initially interested in WB-A's business due to its small scale. WB-A's bargaining power was thus relatively low at first. After three years, WB-A became CS-A's top account and their bargaining power increased: the two became interdependent. The relational rents had accrued quickly during the three years.

CS-B was in a weak position at the beginning. However, WB-B was soon procuring 90% of engine cooling systems from this supplier, who thus gained significant manufacturing process knowledge. CS-B became an exemplar supplier for WB-B in China and was listed on the Shenzhen stock market in 2007. Again, the relational rents accrued quickly with both parties benefiting from the relationship.

Four years into the relationship, CS-B was supplying WB-B's largest competitor. This was made possible by their high absorptive capacity, consistent top management support and high learning intent. Meanwhile, after ten years of collaboration, WB-B had become more reliant on CS-B. The WB-B interface team faced problems as CS-B had to allocate resources to accommodate two large clients, not just WB-B.

In case C, resources were complementary in the sense that WB-C represented an attractive new market while CS-C could bring WB-C low-cost benefits and R&D capabilities. However the relational rents only accrued slowly due to low absorptive capacity in WB-C for Chinese culture and an inflexible organisational structure at CS-C.

Competitive pressures had forced WB-D to source from China to reduce production costs; CS-D was keen to learn from WB-D through knowledge transfer. The relational rent accrued slowly because the strong *guanxi* culture of the state-owned aerospace enterprise constrained CS-D's absorptive capacity to learn from WB-D. Also, WB-D's all-Western interface team, stationed at CS-D, constrained the absorptive capabilities for Chinese cultural knowledge of the team as a whole.

### **Results of cross-case analysis**

Analysing the observed cultural adaptation behaviours of both parties within each of the four partnerships allows literal replication of the findings (i.e. that cultural adaptation leads to mutual benefits) achieved through the comparison of the cultural adaptation behaviours and timing (i.e. when mutual benefits were perceived) across the four cases. Theoretical replication is then possible by combining the qualitative (cultural adaptation behaviours) and quantitative data (mutual benefits).

The conceptual model (Figure 1) was used to divide the relationship duration into three stages. Informants identified which party had adapted, in terms of the three cultural behavioural differences, and during which stage this took place. We sought evidence on how and to what extent both parties adapted, i.e. whether adaptation involved understanding, adjustment, learning (or no adaptation at all), for each case. The matrices for the four cases are shown in Tables 5 and 6.

Cases A and B exhibited a similar level of cultural adaptation at each stage. The levels of cultural adaptation in cases C and D also matched. Table 5 shows the cultural adaptation process for cases A&B; Table 6 for cases C&D. The differences in cultural adaptation behaviours between the two pairs of cases (A&B and C&D) have been highlighted in bold.

Comparison of Tables 5 and 6 shows that the level of cultural adaptation observed in WB-A and WB-B was higher than that in WB-C and WB-D. Specifically, WB-A and WB-B had clearly reached the 'learn' level of cultural adaptation process, whereas WB-C and WB-D had reached the 'adjust' level in the adaptation to *guanxi* network, *yin-*

Behavioural differences		Stages	Stage 1: Exploration	Stage 2: Expansion	Stage 3: Commitment
Family orientation vs. self interest			WB-A,B: <i>Understand</i> CS-A,B: <i>Understand</i>	WB-A,B: <i>Adjust</i> CS-A,B: <i>Adjust</i>	WB-A,B: <i>Adjust</i> CS-A,B: <i>Adjust</i>
Guanxi network vs. multiple institutions			WB-A,B: <i>Understand</i> CS-A,B: <i>Understand</i>	WB-A,B: <i>Adjust</i> CS-A,B: <i>Adjust</i>	WB-A,B: <i>Learn</i> CS-A,B: <i>Adjust</i>
Guanxi relationship building vs. Western relationship building process	Flexible vs. progressive/step by step		WB-A,B: <i>Understand</i> CS-A,B: <i>Understand</i>	WB-A,B: <i>Adjust</i> CS-A,B: <i>Adjust</i>	WB-A,B: <i>Adjust</i> CS-A,B: <i>Adjust</i>
	yin-yang principle vs. dualistic thinking		WB-A,B: <i>Adjust</i> CS-A,B: <i>Understand</i>	WB-A,B: <i>Learn</i> CS-A,B: <i>Understand</i>	WB-A,B: <i>Learn</i> CS-A,B: <i>Understand</i>
	Personal informal vs. corporate to corporate formal		WB-A,B: <i>Adjust</i> CS-A,B: <i>Understand</i>	WB-A,B: <i>Learn</i> CS-A,B: <i>Understand</i>	WB-A,B: <i>Learn</i> CS-A,B: <i>Understand</i>
	Long-term vs. short-term orientation		WB-A,B: <i>Adjust</i> CS-A,B: <i>NA</i>	WB-A,B: <i>Learn</i> CS-A,B: <i>NA</i>	WB-A,B: <i>Learn</i> CS-A,B: <i>NA</i>

Table 5: Cases A & B data display matrix of cultural adaptation

Behavioural differences		Stages	Stage 1: Exploration	Stage 2: Expansion	Stage 3: Commitment
Family orientation vs. self interest			WB-C,D: <i>Understand</i> CS-C,D: <i>Understand</i>	WB-C,D: <i>Adjust</i> CS-C,D: <i>Adjust</i>	WB-C,D: <i>Adjust</i> CS-C,D: <i>Adjust</i>
Guanxi network vs. multiple institutions			WB-C,D: <i>Understand</i> CS-C,D: <i>Understand</i>	WB-C,D: <i>Adjust</i> CS-C,D: <i>Adjust</i>	WB-C,D: <i>Adjust</i> CS-C,D: <i>Adjust</i>
Guanxi relationship building vs. Western relationship building process	Flexible vs. progressive /step by step		WB-C,D: <i>Understand</i> CS-C,D: <i>Understand</i>	WB-C,D: <i>Adjust</i> CS-C,D: <i>Adjust</i>	WB-C,D: <i>Adjust</i> CS-C,D: <i>Adjust</i>
	yin-yang principle vs. dualistic thinking		WB-C,D: <i>Understand</i> CS-C,D: <i>Understand</i>	WB-C,D: <i>Adjust</i> CS-C,D: <i>Understand</i>	WB-C,D: <i>Adjust</i> CS-C,D: <i>Understand</i>
	Personal informal vs. corporate to corporate formal		WB-C,D: <i>Understand</i> CS-C,D: <i>Understand</i>	WB-C,D: <i>Adjust</i> CS-C,D: <i>Understand</i>	WB-C,D: <i>Adjust</i> CS-C,D: <i>Understand</i>
	Long-term vs. short-term orientation		WB-C,D: <i>Understand</i> CS-C,D: <i>NA</i>	WB-C,D: <i>Adjust</i> CS-C,D: <i>NA</i>	WB-C,D: <i>Adjust</i> CS-C,D: <i>NA</i>

Table 6: Cases C & D data display matrix of cultural adaptation

(NA: no adaptation; WB-C,D: WB-C,D's Key informants; CS-A: CS-C,D's Key informants)

*yang* principles, personal and informal nature, and long-term orientation of GR at the Commitment stage.

It can be seen that both pairs of firms, in each of the four cases, had adapted to each other along various dimensions and to differing levels. Their behaviours converged significantly in terms of the recognised cultural behavioural differences between China and the West. The adaptation behaviours were not only bilateral but asymmetric. Western buyers adjusted to, or learned, *yin-yang* principles, personal informal nature, and long-term orientation of the *guanxi*-building process, while Chinese suppliers only achieved a level of understanding of Western dualistic thinking, formal and corporate to corporate nature, and short-term orientation of the Western relationship-building process.

All the Chinese suppliers had reached the ‘adjust’ level in adapting to multiple institutions (Western rules and procedures) but to varying extents. Table 7 shows quotes from interviewees (both parties) and the stages on which they were commenting. This shows that CS-A and CS-B had adjusted to WB-A and WB-B’s rules and procedures reasonably well whereas both parties of cases C&D agreed that CS-C and CS-D needed more development to absorb the rules and procedures.

In WB-A and WB-B, key informants were generally satisfied with improvements in CS-A and CS-B in following their rules and procedures; key informants in WB-C and WB-D were less satisfied with improvements in CS-C and CS-D in this respect.

CS-B had implemented modern management techniques (e.g. six sigma and lean manufacturing) although the implementation was superficial according to the Senior Buyer at WB-B. CS-C and CS-D (similar scale to CS-B) had not implemented such concepts.

Analysis suggested that CS-A and CS-B had a deeper level of adjustment than CS-C and CS-D in terms of following Western rules and procedure; they appeared to adjust better than CS-C and CS-D.

	Western Buyers	Chinese Suppliers
Case A	<i>“Of course, we call these rigid requirements, which are not negotiable. They must accept. They have studied a lot of technical as well as management skills from us and adapted quite well.”</i> (Senior Buyer, WB-A IPO, Expansion)	<i>“I feel we adapted to WB-A in this aspect. What we have learned is to use the procedures and rules to manage the company.”</i> (GM, CS-A, Commitment)
Case B	<i>“We push them (CS-B) toward lean manufacturing, Toyota production system, volatile cycle times. We have a framework which will apply with our suppliers. Eventually they will realize the conventional organisational structure is inefficient. If you go into a Western company, you can go into another working level.”</i> (Purchasing Director, WB-B IPO, Expansion)	<i>“WB-B is a world-class engine manufacturer. If we don’t follow their requirements, we can’t do business with them. When we started trading with WB-B, they had 121 requirements and 21 stages. We followed the stages and requirements closely. WB-B gave us a lot of help, helping us learn their procedures. I feel this is the biggest problem facing Chinese enterprises... when we traded with WB-B, we started adjusting to their requirements.”</i> (President, CS-B, Expansion)
Case C	<i>“They are in the process of improvement. Sometimes they still can’t follow our requirements closely: then we have to explain the requirements to CS-C people, one by one.”</i> (Senior Buyer, WB-C CST) <i>The individuals decide what to do next. They started adapting to us at the very beginning however we are not very satisfied with them even now although they have made some improvements.”</i> (Senior Quality Engineer,	<i>“In fact, we adapted to WB-C. They are very strict on their requirements and procedures. We would cooperate with them. We adapted to them right from the beginning. I feel their requirements are very strict and they are not always happy with our performance.”</i> (Marketing Executive, CS-C, Commitment)

	WB-C CST, Commitment)	
<b>Case D</b>	<p>“We find it so frustrating... The senior management and some middle level management of CS-D have adapted to our procedures and rules to some degree. It depends on where they have worked before. For example, the Procurement Manager has worked in America for a number of years [and] therefore has adapted to Western thinking.” (Team Leader, WB-D’s interface team, Commitment)</p>	<p>“We must follow their requirements. We were not so good at it. We did not follow procedures closely. Now we train our employees on the procedures and cultivate an organisational culture to follow the procedures closely.” (Quality Director, CS-D, Commitment)</p>

**Table 7: Cross case comparison of level of adjustment to Western rules and procedures by the four Chinese suppliers**  
(CST = China Sourcing Team. IPO = International Purchasing Office)

*Literal Replication of the result*

Using the questionnaire data shown in Appendix 3 (mutual benefits), we can identify the stage at which each mutual benefit was perceived by each party in each relationship (following Miles and Huberman, 1994). Within-case analysis at the Exploration stage of the relationships indicates in all four cases that there were either no mutual benefits or only just cost-reduction benefits but that cultural adaptation had already begun. The level of cultural adaptation by both parties in the four cases had increased by the Expansion stage (e.g. from ‘understanding’ at the Exploration stage to ‘adjustment’ at Expansion) and more mutual benefits were perceived. The rest of the mutual benefits were perceived at the Commitment stage, while the level of cultural adaptation stayed the same as that in the Expansion stage. This indicates that cultural adaptation began first and mutual benefits followed (at later stages) as a result (i.e. there was a time lag between them.)

Findings of all four cases support the argument that the perceived mutual benefits are preceded by the cultural adaptation, thus indicating a probable causal relationship between them, i.e., that cultural adaptation causes mutual benefits. All key informants answered positively to the question: “Have mutual benefits of the relationship grown due to cultural adaptation of both parties?” All the seven-item mutual benefits had been identified by the key informants from both parties for each of the four cases except that WB-C’s key informants did not perceive the flexible adaptation of CS-C, and CS-C’s key informants did not perceive cost reduction benefits from the relationship with WB-C. Thus we conclude that literal replication has been achieved for the findings on the causal relationship between cultural adaptation and mutual benefits.

*Theoretical Replication of the result*

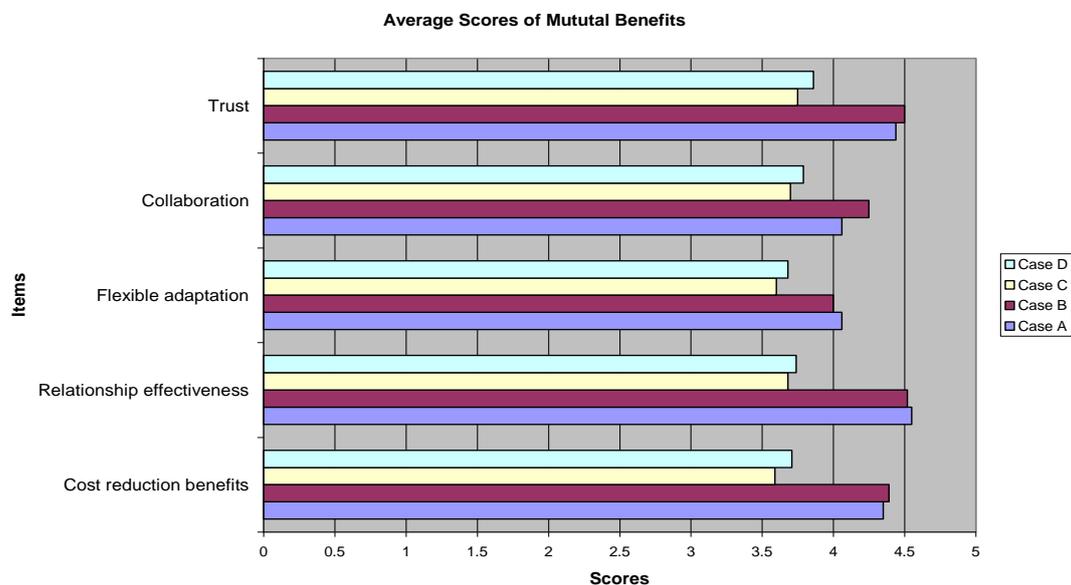
As discussed earlier, WB-A and WB-B had reached the highest level of cultural adaptation process (‘learn’), whereas WB-C and WB-D had reached ‘adjust’ in adapting to *guanxi* network, *yin-yang* principles, personal and informal nature, and long-term orientation of the *guanxi* relationship-building process. CS-A and CS-B also had a deeper level of adjustment to Western rules and procedures than did CS-C and CS-D. Thus both parties of cases A&B had higher or deeper levels of cultural adaptation than those of cases C&D.

Figure 2 shows that average scores of cases A&B for five of the items of mutual benefits are above 4 while average scores of cases C&D are all between 3.5 and 4, indicating that deeper levels of mutual benefits were perceived by the key informants

of cases A&B than those of cases C&D (all scores indicate the perception when the research was conducted i.e. at the Commitment stage). The average scores are those for the dyad: the average of perceived mutual benefits by both parties in the partnership.

Since all informants rate *guanxi* quality as ‘familiar *guanxi*’, it is excluded from Figure 2. (This might indicate a need of further classification of familiar *guanxi*.) For the item of ‘commitment,’ the average scores for cases A, B, C and D are 4.25, 4.5, 4.5 and 4.25 respectively. There is little difference among the four cases and ‘commitment’ is therefore not included in Figure 2.

The numbers of observations (i.e. informants) for cases A, B, C and D were: 4, 5, 5, and 7 respectively; the total sample size was 21. As this is not suitable for testing the assumptions of normal distribution (Field, 2005), a nonparametric Kruskal-Wallis test was run (in SPSS) to test differences between cases A&B as a group and cases C&D as a group, in terms of the five mutual benefits in Figure 2. The nonparametric test does not assume a normal distribution and is therefore an alternative to a one-way ANOVA (Field, 2005).



**Figure 2: Average scores of five-item mutual benefits**

The K-W test (see Appendix 4) compared perceived mutual benefits between cases A&B as Group 1 and cases C&D as Group 2, at the Commitment stage of the relationships. The sample size for group 1 was 9; for group 2 it was 12.

The null hypothesis is:

$H_0$ : The mutual benefits gained by Case A & B as a group are not significantly different from those gained by Case C & D as a group.

The alternative hypothesis is:

$H_1$ : The mutual benefits gained by Case A & B as a group are significantly different from those gained by Case C & D as a group.

The result shows that cases A&B (Group 1) are significantly different from cases C&D (Group 2) in all five items; therefore,  $H_0$  is rejected,  $H_1$  supported. We conclude that the perceived mutual benefits for cases A&B are significantly deeper than those of cases C&D.

Cases A&B had a higher level of cultural adaptation than cases C&D, while key informants of cases A&B perceived deeper mutual benefits than cases C&D at the Commitment stage of the relationship evolution process. We can thus conclude from both qualitative and quantitative evidence that higher levels of cultural adaptation between both parties of a Chinese-Western supply relationship can lead to deeper perceived mutual benefits.

Both literal and theoretical replications suggest that when the level of cultural adaptation increases, the perceived mutual benefits increase in both quantity and depth of perception. Our first research question is thus answered and our proposition is supported. It can also be refined: *As a relationship develops from Exploration toward the Commitment stage, if the level of cultural adaptation increases, it is likely that perceived mutual benefits will also increase in both quantity and depth.*

Dul and Hak (2008) claim that there are probabilistic and deterministic ways of expressing a causal relationship in which "A results in B." Our proposition is expressed as a probabilistic causal relationship because there are only four cases available and the total number of observations is 21. While both qualitative and quantitative data support the causal relationship, through literal and theoretical replication, the small sample size makes it appropriate to call it a probabilistic statement. Further research, based on a larger sample size would be needed to establish a deterministic causal relationship.

## **Discussion and final remarks**

According to the literature, cultural differences can have negative impacts on cross-cultural supply relationships. We proposed cultural adaptation as a possible source of mitigation for this problem. We have shown that cultural adaptation can be seen as a special form of international dyadic learning.

A number of authors (Lin, 2004; Bessant *et al.*, 2003) have indicated a causal relationship between cultural adaptation and mutual benefits but have provided little or no empirical evidence, especially in a Chinese-Western context. Our research empirically builds on the concept and supports the proposition with case study evidence of literal and theoretical replication of the same result, showing a causal relationship between higher level of cultural adaptation and greater and deeper perceived mutual benefits. Our first research question has thus been answered.

Building on this answer, we address our second research question. We observed from the case analysis that both relational and inbound spillover rents were obtained by the case companies who were motivated to engage in supply chain issues i.e. problems caused by cultural differences in buyer-supplier relationships. We can couple this with the ERBV principle that a firm's critical resources may extend beyond its boundaries (Dyer and Singh, 1998), and be manifested in behaviours such as internalising skills of a partner and jointly creating mutual benefits or relational rents.

Building on the answer to our first research question and our findings concerning rents and benefits gathered from the relationships, it is found that both inbound spillover rent and relational rent were obtained as a result of cultural adaptation by

both parties of a relationship. Therefore, we employ Flint *et al.* (2008) definition of SCL (“multiple supply chain partners engaged in interaction where learning occurs and is focused on supply chain issues and solutions”) but confine it to a dyadic level and redefine inter-firm or dyadic learning as:

“A dyad of buyer-supplier engaged in interactions learning jointly or from each other about any dyadic issues and solutions with the aim of increasing relational rents or inbound spillover rents or both.”

This conceptual development provides an answer to our second research question.

#### *Theoretical and Practical Contributions*

We make several contributions to theory. We are the first to ground inter-firm or dyadic learning in the ERBV perspective, redeveloping the concept by linking it to relational rents as mutual benefits. This is theory-building for dyadic learning. Our empirical research is the first to establish a causal relationship between a form of international dyadic learning (cultural adaptation in a Chinese-Western context) and relationship performance measures (mutual benefits or relational rents). We have measured partnership performance with qualitative perceptual measures (as proposed by Geyskens *et al.*, 1999; Shamdasani and Sheth, 1995; and Walton, 1996). We also included *guanxi* quality, measuring the relationship between Western buyers and Chinese suppliers for the first time. We have thus extended theory on dyadic learning.

Second, we have extended the concept of dyadic learning to Chinese-Western supply relationships - often the key building block of Chinese international supply chains and networks, where significant initial learning in such supply chains is predominantly evident.

Third, this research has theoretical implications for future study on ‘supply chain learning.’ The first influential research to use this term was by Bessant *et al.* (2003). In developing the concept, they referred to learning behaviours in an inter-organisational context, observing that, despite a growing interest in *inter*-organisational application of such principles, literature had focused on *intra*-organisational learning. Building on this, Flint *et al.* (2008: 274) defined SCL as “multiple supply chain partners engaged in interaction where learning occurs and is focused on supply chain issues and solutions.” They added: “This may involve product modifications, new product development and network re-designs.” This is the only formal definition of SCL identified in the literature. SCL is thus a more tightly defined term than dyadic learning and concerns learning that occurs in, and influences, the supply chain. An implication of our work is that research on SCL in an international context should include, and perhaps test, the concept of cultural adaptation as a form of dyadic learning as a ‘building block’ at the level of the supply chain.

This research has important implications for managers in Western buyers and Chinese suppliers alike.

First, our research shows that cultural adaptation can bring mutual benefits and inbound spillover rents to the relationships and to each party and therefore help motivate managers to adapt culturally. The research emphasizes the importance of learning within the principal dyad.

Second, the performance measures (mutual benefits) emphasize the use of both items such as trust and collaboration commonly discussed in a Western context and

*guanxi* quality reminding managers to pay attention to this feature of relationship performance in a Chinese context (Appendix 3).

Finally, we hope that our new, original data – stories from managers working within Chinese-Western supply chain relationships, in China - will provide a valuable source of insight for others perhaps facing this challenge in future.

### *Limitations*

We recognise that, despite our careful analysis, the generalisability of our findings is limited by the small sample size: the refined proposition could be tested with larger sample size in the future research. The second limitation is the focus of dyadic relationships. We have referred to the possibility of learning being passed on to other suppliers, especially within the national context. It will be interesting to discover more about the ways in which other actors in the supply network also learn as a result of cultural adaptation in the principal relationships we have explored.

It could be suggested that our informants may not have recalled important events and even if they did, their recollection may have been subject to bias (Voss *et al.*, 2002). We accept this and have sought to guard against it by ensuring construct validity, using different sources of evidence, and corroborating with multiple informants.

The issues associated with CMV have been addressed in the Methodology section. In future research one possible solution could be using a large sample survey as well as triangulating with qualitative data. Another solution might be that we add a measure asking the respondents to rate the general satisfaction with the supply relationship.

### *Future research directions*

We have focused on cultural adaptation as learning in the principal Chinese-Western relationship and posited this as an influence on SCL throughout the supply chain. Future research could test this idea and explore ways in which learning is transferred or disseminated to upstream suppliers. Research on the nature of what was once called ‘best practice’ would suggest that this does take place (i.e. the supplier would start to develop benefits in their own supply relationships) but this needs to be explored afresh. Second, it would be worth exploring further the strategic outcomes of cultural adaptation (for example the hybrid culture proposed by Jia and Rutherford, 2010). Third, the antecedents of cultural adaptation are not clear and need to be better explained. Future research could take into consideration contextual variables such as ownership of Chinese suppliers and structure of the international purchasing office.

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### Appendix 1: Behavioural indicators for the 3-Levels of cultural adaptation and no adaptation

Cultural adaptation	Distinct character	Behavioural indicators
No Adaptation (NA)	Do not understand cultural behavioural differences (evidenced by denial and minimization of cultural differences.)	NA1: Believe they behave in a natural and normal way; different ways are wrong and misguided. NA2: As different as two cultures may be, people are still more similar than dissimilar.
Understanding (U)	Understand and accept the cultural behavioural differences.	U1: Understand another culture on its own terms. U2: Show personal understanding of the cultural behavioural differences. U3: Cultural differences are acknowledged and accepted. U4: Do not normally adopt many of the behaviours of an opposite culture, or adjust their own behaviour to be more culturally sensitive, but are tolerant and have a sympathetic attitude.
Adjusting (A)	Require a level of adjustment for smooth interaction. Mimic behaviours of other cultures.	A1: Adopt behaviours that are consistent with a target culture reactively because they 'feel right'. A2: Temporarily shift to behaviour more appropriate to the other's culture; however may feel uncomfortable interacting with the other party. A3: Interact with the other party if needed only. A4: Use knowledge of opposite culture without realizing it.
Learning (L)	Make a conscious effort to integrate elements of the other culture into one's own	L1: Use knowledge of opposite culture proactively. L2: Interact with personnel of the opposite culture regularly and willingly. L3: Express interest and respect for the other party's culture spending time observing reading about and studying the other party's culture. L4: Become bicultural, effortlessly adjusting behaviour to suit the culture of the people they are with-style switching.

Note: These indicators were derived from (Black, 1988; Bennett, 1993; Early and Peterson, 2004; Lin, 2004; Yamazaki and Kayes, 2004).

## Appendix 2: Interview questions

Generally, how has the relationship changed over time?

1. Let's start from the beginning of the relationship, can you tell me about the first steps in building the relationship? When was that?

How do you describe your relationship with the Chinese supplier/Western buyer at that time?

2. Once the relationship was established, how has the relationship developed?

How do you describe your relationship with the Chinese supplier/Western buyer at that time?

3. Can you describe the relationship recently?

How do you describe your relationship with the Chinese supplier/Western buyer now?

4. Go to the pre-interview questionnaire, which include each item of cultural differences and ask:

Can you give me an example of problem caused by each item of the culturally behavioural differences? How did you adapt to each other in this aspect?

Prompt: Have you adapted? How? When did you adapt?

5. What benefits have been gained from this partnership because of adapting to the Chinese supplier/Western buyer culturally comparing to the beginning of the relationship?

### Appendix 3: Mutual benefits questionnaire

Interviewees were asked to rate from 1 to 5 the following statements for the first 6 mutual benefits (1 strongly disagree, 2 disagree, 3 neutral, 4, agree, 5 strongly agree). For the final one, *Guanxi* quality, they were asked to select one from the three options provided. They were also asked to indicate when they perceived the particular mutual benefit (i.e. at the Exploration, Expansion or Commitment stage of the relationship's evolution)

#### *Cost reduction benefit:*

This relationship has favourably reduced our end product manufacturing costs.  
We have efficiently coordinated activities between the two parties in this relationship.  
In this relationship, we have been able to realize cost savings due to streamlined practices.

#### *Relationship effectiveness*

Both parties carry out their responsibilities and commitments.  
The relationship with this supplier/buyer is productive.  
The time and effort spent in developing and maintaining the relationship is rewarding to both.  
We are satisfied with the relationship.  
We have been able to build upon the expertise of this supplier to increase the degree of satisfaction among our customers.

#### *Flexible adaptation*

This relationship is characterized by flexibility in response to request for changes.  
When some unexpected situation arises, we work together with this supplier/buyer to make necessary changes to our relationship.  
Both sides adjust the ongoing relationship to cope with changes in the business environment.  
In this supplier relationship, we are willing to change contractual terms in the face of problems or special circumstances.

#### *Collaboration*

We are achieving our long-term goals together.  
In this supplier relationship, we share ideas, information and/or resources.  
We work together with this supplier/buyer as a team.  
People from both companies work together informally.

#### *Relationship commitment*

Neither party is very committed to this relationship.  
Both parties see our relationship as a long-term alliance/partnership.  
Both parties are patient with each other when mistakes are made.  
Both parties are willing to dedicate the people and resources necessary to grow our relationship.

#### *Trust*

In this relationship, we keep the promises we make to each other.  
Each party believes the information provided by the other.  
Both parties are genuinely concerned that the other's business succeeds.  
We both find each other trustworthy.

#### *Guanxi quality*

Shengren (stranger) Guanxi  
Shouren (familiar) Guanxi  
Jiaren (family) Guanxi

## Appendix 4: Kruskal-Wallis equality-of-populations rank test

1. Test the difference of scores on Cost Reduction Benefits among the four cases

### Ranks

Partnerships	N	Mean rank
Case A	4	4.40
Case B	5	4.34
Case C	5	3.71
Case D	7	3.60

Since the P-value is 0.051, there is significant difference between the four cases at 0.05 level. Since average scores for Cases A & B individually are higher than Cases C & D individually for this item, the average scores for Cases A & B as a group is higher than Cases C & D as a group. Therefore it is concluded that the average score of Cases A & B as a group is significantly higher that of Cases C & D as a group in this item.

2. Test the difference of scores on Relationship Effectiveness among the four cases

### Ranks

Partnerships	N	Mean rank
Case A	4	4.55
Case B	5	4.52
Case C	5	3.74
Case D	7	3.68

Since the P-value is 0.018, there is significant difference between the four cases at 0.05 level. Since average scores for Cases A & B individually are higher than Cases C & D individually for this item, the average scores for Cases A & B as a group is higher than Cases C & D as a group. Therefore it is concluded that the average score of Cases A & B as a group is significantly higher that of Cases C & D as a group in this item.

3. Test the difference of scores on Flexible Adaptation among the four cases

### Ranks

Groups	N	Mean rank
Cases A and B	9	4.37
Cases C and D	12	3.66

Since the P-value is 0.152, the difference of the four cases is not significant therefore Additional K-W test was run between Cases A & B as a group and Cases C & D as a group. The new P-value is 0.023, the difference between the two groups is significant at 0.05 level. Therefore it is concluded that the average score of Cases A & B as a group is significantly higher that of Cases C & D as a group in this item.

4. Test the difference of scores on Collaboration among the four cases

### Ranks

Groups	N	Mean rank
Case A and B	9	4.16
Case C and D	12	3.75

The P-value is 0.216; therefore the difference among the four cases is not significant. Again additional K-W test is run between Cases A & B as a group and Cases C & D as a group.

The new P-value is 0.053, the difference between the two groups is significant at 0.1 level (close to 0.05 level). Therefore it is concluded that the average score of Cases A & B as a group is significantly higher than that of Cases C & D as a group in this item.

5. Test the difference of scores on Trust among the four cases

**Ranks**

Partnerships	N	Mean rank
Case A	4	4.50
Case B	5	4.44
Case C	5	3.86
Case D	7	3.75

Since the P-value is 0.019, the difference of the four cases is significant at 0.05 level.

Since average scores for Cases A & B individually are higher than Cases C & D individually for this item, the average scores for Cases A & B as a group is higher than Cases C & D as a group. Therefore it is concluded that the average score of Cases A & B as a group is significantly higher than that of Cases C & D as a group in this item.