

Choices of International Telecommunications Alliances Modes in China, Taiwan and Hong Kong

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Abstract

Telecommunications liberalization in China, Taiwan and Hong Kong begin in the late 1990s. Since then, many international telecom operators, such as AT&T and Vodafone, have reached international strategic alliances with local telecom operators to quickly enter these emerging markets. However, while facing immature telecom policies in the host country as well as unfamiliarity with local partners, international operators raise an important but less-known question: How to choose an appropriate telecom alliance mode with local partners in China, Taiwan and Hong Kong?

There is a growing body of research on telecom alliances, much of which conducted qualitative analysis on telecom alliances from the perspective of regulation analysis, global alliance strategy, or market value of alliances. However, those studies emphasize general alliance strategies; insights into specific determinants of alliance modes are limited. There is also little comparative analysis on the influences of various policies in strategic alliance strategies. In addition, in an extensive review of alliances literature, it has been seen that the extent of the trust relationship between partners has substantial impacts on the alliance mode choice. However, trust effects have yet been examined in telecom alliances. To fill these research gaps, this study extends the theoretical framework by unifying regulations and trust concepts, and then comparing the determinants of international telecom alliance modes among China, Taiwan and Hong Kong.

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Through comparative analysis, this study demonstrates the telecom FDI regulations in each market as well as the background of international telecom investors. Furthermore, it concentrates on which factors determine the telecom alliance modes. Here, on the alliance structure and objective, alliance modes are classified into (1) equity alliances, (2) relational alliances (long-term relational non-equity alliances) and (3) recurrent alliances (episodic non-equity alliances). Finally, multiple discriminant analysis is used to investigate the simultaneous impacts of “regulation risk in the host country” and “trust relationship between partners” on the choice of alliance modes.

Our research leads to several important findings. First, when comparing international telecom alliances in China, Taiwan and Hong Kong, we find that alliance modes change over time along with telecom policy maturity. Telecom regulations risk in the host country is not only originated from whether regulations articles are set-up but also from whether governments treat fairly toward foreign investors. In the initial liberalization stage, most are equity alliances (highest control) or recurrent alliances (lowest control) to avoid problems stemming from regulation risk in the host country. When regulation risk is decreasing, the number of relational alliances increases. Second, this study shows that trust, a multi-dimensional factor, accumulates from cultural similarity and international alliances experience, which provides clues of partners’ goodwill and reliability in the international telecom alliances. High trust reduces the needs of formal, costly equity structure and governance costs. Accordingly, international operators from similar national culture are frequently involved in non-equity alliances; while international telecom operators from outside Asia are likely to adopt equity alliances more than non-equity ones. Trust relationship between partners also may grow over time as local partner have more and more alliance experiences, which are helpful to develop alliance know-how and ability than those without any experience.

Keywords: International strategic alliances, regulation, relationship management, trust

1. Introduction

China, Taiwan and Hong Kong have been identified as the fast-growing telecom markets since they initiate telecom liberalization and privatization in the late 1990s (ITU, 2002). The growth of these markets has been noticed by lots of international telecom operators, such as AT&T, Vodafone and NTT DoCoMo, in pursuit of first-mover advantages and abundant business opportunities. In order to achieve the objectives, international telecom operators often ally with local telecom operators to rapidly enter the market. Through strategic alliances with local partners, international operators may acquire local expertise and commitments, share and co-develop telecom technology as well as pool regional resources to broaden the scope of telecom service (Joshi, Kashlak and Sherman, 1998; Chan-Olmsted and Jamison, 2001; Oh, 1996). However, although there are lots of benefits to reach strategic alliances, some problems exist. First, governments in the host countries may not develop comprehensive foreign direct investment (FDI) policy yet or may not mature enough to treat international telecom operators with open-minded. Second, international telecoms operators may suffer high transaction costs due to unfamiliarity to their local partners in these newly emerging markets. Third, differential national culture and management styles between international and local alliance partners may result in the difficulties in cooperation. Therefore, while facing these benefits and difficulties of international strategic alliances, international telecom operators raise a question: How to decide the appropriate alliance mode in such a challenging environment?

As an overview of the alliances in China, Taiwan and Hong Kong, the international strategic alliances can be classified into three major alliance modes: equity alliances, relational alliances (long-term non-equity alliance) and recurrent alliances (episodic non-equity alliances). For international telecom operators, how to choose an appropriate alliance mode is an important but not well-known question. In previous literature, researchers have conducted qualitative analysis on telecom alliances from the perspectives of regulation analysis (Tan, 2002; Wang, 2003; Mueller and Lovelock, 2000), global alliance strategy (Joshi, Kashlak and Sehrman 1998; Chan-Olmsted and Jamison, 2001) and alliance market value effects (Trillas, 2002). However, most studies have focused on specific regulation policy and ignored simultaneous effects on alliance mode choices. To fill this research gap, the first purpose of this study is to investigate the determinants of telecom alliance modes through an analysis of the alliance activities in these Asia countries.

The second purpose of this study is to investigate the impacts of host country regulation on alliances mode. The effects of domestic telecom regulation has been

discussed in the international telecom alliance literature (Ramamurti, 2000; Muller and Lovelock, 2000; Tan, 2002; Zhang, 2001), which has generally suggested that foreign firms tend to choose equity alliances over non-equity alliances when investing in restrictive markets. However, another viewpoint from organizational flexibility provides the opposite arguments (Kim and Hwang, 1992; Anderson and Gatignon, 1986). Thus, we attempt to explore the relationship between regulation effects and choice of alliance modes. We further propose that effects of telecoms regulation are originated not only from explicit regulation articles but also from implicit governmental attitudes towards foreign investors. Under a situation in which a government inclines to bureaucracy or national protectionism, international operators would suffer high regulation risk. In order to examine regulation effects, this study compares alliance modes under China, Taiwan and Hong Kong's different levels of telecom regulation maturity. The findings provide a comprehensive understanding of regulation effects.

Third, this study explores the effects of inter-organizational trust relationships on the choice of telecom alliance mode. Because the local partners in the emerging telecom markets with several characteristics, such as national culture, telecom business behaviors and international alliance experiences, which foreign investors are unfamiliar with, the transaction costs in the alliances would increase (Jennings, Gillin and Christodouloy, 2000; Das and Teng, 1998). Once the partners in the alliances have low trustworthy relationship, alliance strategies are believed to be different from those have high trust. For example, when international operators do not trust their local partners, they have to develop the formal mechanism to protect themselves from opportunistic behaviors. Otherwise, they can develop more flexible relationship with partners. Thus, to clarify the impacts of trust, this study will examine the association between inter-organizational relationship and choice of telecom alliance modes.

Theoretically, in order to explore the determinants of telecom alliance modes, we apply theoretical conceptual constructs to telecom service sectors as well as provide telecom evidence to bolster theoretical development. This study fills research gaps in international alliance strategies in telecom emerging markets. Managerially, this study would like to provide practical suggestions on the choice of alliance modes for international telecom operators, local operators and host-country governments. This paper is organized as follows. First, we begin with comparison about telecom FDI regulations in China, Taiwan and Hong Kong. Then we introduce modes of international telecom alliances in these markets. Third, after reviewing the literature of the determinants of the strategic alliances, we provide multiple discriminant analysis (MDA) to assess the effects of regulations and inter-organizational

relationship in the alliances. Finally, discussion is presented in the last section.

2. Background of Telecom Regulations On Foreign Investment in China, Taiwan and Hong Kong

Policy formulated and implemented by the host country government may guide foreign investment towards specific industrial sectors and to aid the growth of local industry (Tan, 2002). So is in telecom service sectors. Telecom service was used to be state-owned industry which was strictly exhibited FDI. In the period of moving to telecom liberalization, host countries concern about the positive and negative impacts of FDI and worry their ability to control the contributions of foreign investment in order to protect national interests (Tan 2002). In the cases of China, Taiwan and Hong Kong, governments, under these concerns, release the restrictions through a series of steps. First, local governments agree to separate the complex and dual roles of telecoms supervision and operation, then build up an autonomous regulatory body. Second, the governments take a series steps to remove the restrictions on foreign ownership in basic telecom sectors. Third, under the WTO agreement on basic services, member countries follow free trade principle to open the area previously closed to foreign investment. In the liberalization process, Hong Kong began the process of telecom liberalization much earlier than China and Taiwan (Fig.1).

In China, a series of telecom liberalization started from the establishment of the Ministry of Information Industry (MII) in 1998. At that time, however, China's government continued to tightly control foreign investment in the telecom service sector (Asia Pacific Telecom Analyst, 1995). In November, 1999, after negotiations in the US on its WTO accession, China agreed to gradually open up its telecom sector to FDI. On December, 2001, China, as one member of WTO, announced "Foreign Invested Telecommunication Enterprises (the FITE provisions)" by State Council. In FITE provisions, China promised to obey WTO articles and committed to allowing foreign telecom operators to have 50% ownership of value-added services in two years and 49% ownership of mobile and fixed-line services in six years respectively after China entered the WTO in 2001 (ITU, 2002).

Taiwan's steps toward telecom liberalization began earlier than China. Directorate General of Telecommunications (DGT), Taiwan's telecom regulation bureau, was transformed from the dual roles of regulating and operating telecom business into an independent regulatory board in 1996. In the Amendment of Telecommunication Act in 1996, the maximum foreign ownership in privately-owned telecom operators was

20% shareholding. In order to comply with WTO requirements, Taiwan removed trade barriers before WTO accession and allowed foreign operators to hold direct investment up to 49% stake and total controlling interests up to 60% in domestic operations in 1999 (DGT, 1999).

Hong Kong leads to China and Taiwan in the telecom liberalization (ITU, 2002). In 1993, the Office of Telecommunication Authority (OFTA) was established with a strong, aggressive stance in accelerating telecommunication liberalization (Yan, 2001). In 1997, Hong Kong, as one of the WTO member country, committed to removing any foreign investment restrictions (ITU, 2002). Compared to other member countries, Hong Kong has already become a liberalized regime and adopted more advanced progress than WTO agreements. Overall, Hong Kong is the advanced market in telecoms regulation while China and Taiwan develop much later.

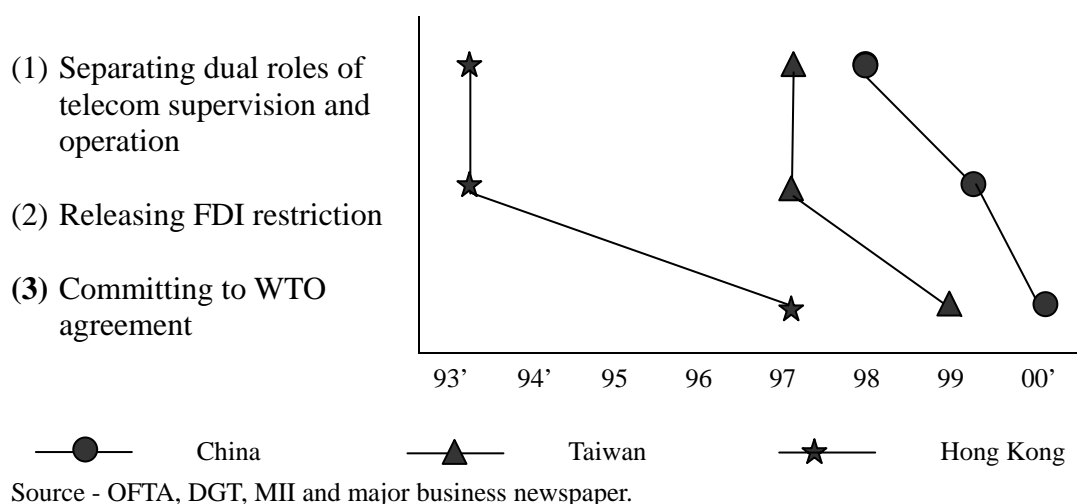


Fig. 1 Telecom FDI regulation development in China, Taiwan and Hong Kong.

3. Telecom alliance modes in China, Taiwan and Hong Kong

After FDI regulations in China, Taiwan and Hong Kong are released step by step, more and more international telecom service operators ally with local operators. According to alliance structure, we begin to classify the alliance structures into equity and non-equity ones. Equity alliances refers to ones in which international telecom operators acquire some equity ownership of local telecom operators. Partners have formal, functional command-obedience relationship. Non-equity refers to one without equity involved.

Among the non-equity alliances, partners design long-term or short term alliance period in the agreements to reach a variety of alliance objectives, such as technological sharing, joint marketing, co-productions, network buildup, service

connection, and operation acquisition. We classify non-equity alliances into relational alliances and recurrent alliances. Relational alliances refer to long-term sustained cooperation that stems from reciprocal inter-dependency. Recurrent alliances refer to short-term episodic cooperation that is characterized by certain transaction purpose. Both terms are adopted from Ring and Van de Ven (1992)'s concepts on alliance classification.

Utilizing Lexis-Nexis Academic database for collecting the publicly-announced international alliance data in China, Taiwan and Hong Kong, during the period of 1995~ mid-2002, we acquire 161 international strategic alliances. Three criteria are required to label strategic alliances. First, alliances have to be formulated and implemented in China, Taiwan and Hong Kong. Second, at least one of the partners in the alliance should be a China, Taiwan or Hong Kong domestic telecom carrier. Thirdly, because what we emphasize is an individual, inter-organizational relationship between two partners, an alliance involving multiple partners is counted separately as a bi-lateral alliance. Through double blind coding in alliance mode typology, 20.5% of the alliances found were termed equity alliances, 31.7% relational alliances and 47.8% recurrent alliances. The alliance mode definitions and examples are given in Table 1.

Table 1

Definition and Examples of Telecom Alliance Modes*

Mode Markets	Equity Alliances	Relational Alliances	Recurrent Alliances
Definition	Equity involved, formal, functional command-obedience relationship	Non-equity involved, long-term sustained cooperation that stems from reciprocal inter-dependency.	Non-equity involved, Short-term episodic cooperation that is characterized by certain transaction purpose.
China	<ul style="list-style-type: none"> ● Vodafone (UK) acquired 2% in China Mobile to cooperate in provision of global roaming services and mobile Internet technology. ● Sprint (US), France Telecom (France) and Bell Canada (US) sunk \$1.4 billion into China Unicom. 	<ul style="list-style-type: none"> ● China Telecom and AT&T (US) signed mutual of understanding (MOU) to form long-term partnership. ● China Telecom and Germany Telecom (Germany) signed MOU on telecom operation. ● China Telecom and Japan Telecom (Japan) cooperate in leased line services and expand to mobile phone business. 	<ul style="list-style-type: none"> ● China Mobile, Mobitai (Taiwan) and Sunday (Hong Kong) signed to provide GPRS services ● British Telecom (UK) and China Telecom both allow to provide new global service. ● KDDI (Japan) and China Unicom cooperate on roaming arrangement. ● SK Telecom (Korea) and China Unicom sign roaming services.
Taiwan	<ul style="list-style-type: none"> ● AT&T (US) acquired 20% in FarEasTone ● DoCoMo (Japan) acquired 20% in KG Telecom. ● GTE(US) acquired stakes in Taiwan cellular. 	<ul style="list-style-type: none"> ● DoCoMo(Japan) works with KG telecom to provide mobile telecom services in Taiwan. ● 5 International telecom operators and Chung-hwa Telecom cooperate to lay submarine cable linking Asia and North America. 	<ul style="list-style-type: none"> ● British Telecom (UK), AT&T(Us), SmarTone (HK)and FarEasTone (TW) conduct Internet phones roaming trials. ● Taiwan Telecom and Concert announce to establish network.
Hong Kong	<ul style="list-style-type: none"> ● China Telecom (China) acquired 5.5% stake in Hong Kong Telecom. ● Hutchison Whampoa and Global Crossing (US) set up telecom and internet joint venture. ● British Telecom (UK) acquired 20% stake in SmarTone. 	<ul style="list-style-type: none"> ● Hong Kong Telecom signed to join World Partners Association. ● China Telecom (China) and Hutchison Global join to construct fiber -optic transmission system. ● DoCoMo (Japan) and Hutchsion join to develop 3G multimedia services. 	<ul style="list-style-type: none"> ● Peoples Telephone and AT&T (US) reached an agreement on service contract that designates AT&T as primary operator providers. ● Optus Communications and Hutchison reached an agreement airtime resale agreement.

* () in the examples refers to the country where telecom operators' headquarter is located.

In the international alliances, most international telecom investors were from Asia and those from America and Europe in second place (Table 2). Asia and outside-Asia operators utilize different choice strategies on alliance modes. Asia operators, such as NTT DoCoMo (Japan) or Singapore Telecom (Singapore), frequently adopted cross-border relational alliances. Some of them reached bilateral alliances, such as

joint product development or co-marketing programs, while others formed the multi-lateral “regional cooperation”, such as infrastructure establishment (e.g. Asia Pacific optical fiber cables) or roaming agreements (e.g. GPRS service provision, Internet phones roaming). In addition, after a few years later than FDI openness, Asia operators reached more and more recurrent alliances. Most of alliance purposes were to pool regional resources, create a regional service network and broaden service scopes.

On the other hand, international telecom operators from outside Asia utilized different mode strategies over time. In the early liberalization phase, they tended to adopt equity alliances with specific local operator. After a few years, they either increased stake purchase or extended this cooperation fields with the same local partner. For instance, American telecom giant, AT&T, established a wireless service joint venture, Far EasTone (Taiwan), with FarEast Group in 1996, the year of Taiwan’s telecom liberalization. After that, AT&T continued to increase its purchase stake in 1999 as well as extending its cooperation in the GPRS roaming trial and global wireless service connection in 2000 (PR Newswire, 2000). The United Kingdom carrier, Vodafone AirTouch plc, is another example. It purchased a 2% stake in China Mobile (China) in 2000 and added another deal in 2001 when Vodafone became China Mobile’s preferred partner for all cooperative ventures (China Online, 2001). Subsequently, Vodafone increased its ownership in China Mobile to 3.27% in 2002 in terms of cooperation in mobile services, technology, operations and management (China Daily News, 2002). Both the AT&T and the Vodafone cases indicate that equity alliances are likely to utilize equity alliances to be the initial business relationship, accompanying with succeeding cooperation in the future.

Table 2

Modes of strategic alliances by the country origin of foreign operators

	95'	96'	97'	98'	99'	00'	01'	Total (%)
Asia*								
Equity alliances	1	1	2	0	3	3	2	12(12%)
Relational alliances	0	0	11	1	3	13	2	30(29%)
Recurrent alliances	0	0	6	3	25	6	20	60(59%)
								102
America**								
Equity alliances	0	4	1	1	4	2	1	13(41%)
Relational alliances	3	0	8	0	0	0	0	11(34%)
Recurrent alliances	0	0	3	1	0	3	1	8(25%)
								32
Europe***								
Equity alliances	0	0	1	0	2	2	0	5(42%)
Relational alliances	0	0	0	0	0	2	1	3(25%)
Recurrent alliances	0	0	0	0	1	3	0	4(33%)
								12
Australia****								
Equity alliances	0	0	0	0	0	1	1	2(18%)
Relational alliances	0	0	2	0	1	0	1	4(18%)
Recurrent alliances	0	0	1	2	2	0	0	5(65%)
								11

* Foreign operators from Asia are CSL, Bharti Celular, NTT DoCoMo, First Pacific, Japan Telecom, KDD, China Mobile, China Telecom, China Unicom, Chunghwa Telecom, Hong Kong Telecom, Hutchison Telecom, Hutchison Telecom, New T&T, PCCW, SK Telecom, Sunday Telecom, Singapore Telecom, SmarTone Telecom

** Foreign operators from America are AT&T, Global Crossing, GTE, Davel Communication, Bell Southern Bell

*** Foreign operators from Europe are BT, Concert, Vodafone, French Telecom

**** Foreign operators from Australia: Telstra Telecom

4. Theory and Hypotheses on the Choices of International Alliances Modes

On the basis of above alliance mode analysis, international telecom operators may choose different alliance modes depending on FDI regulation and the relationship with the local partners. Therefore, we further explore the detailed determinants from two aspects: regulation risk in the host country and trust relationship in the inter-organizational relationship.

4.1 Host Country Factor: Regulation Risk

In the international marketplace, the choice of alliance modes is associated with regulation risk in the host country. Regulation risk can be divided into two sources: time risk and control risk (MacCrimmon and Wehrung, 1986; Ring and Van de Ven, 1992). Time risk originates from an environment where explicit regulation articles are not fully formulated and firms feel they have to take action immediately. Control risk,

on the other hand, is generated by the degree in which companies fear unexpected changes in governmental attitudes on FDI which may adversely affect the investment environment and are beyond investors' control. For example, when governments incline to bureaucracy, national protectionism or unequal treatment toward foreigners, foreign investors will be wary of doing business due to regulatory uncertainty, resulting in control risk. Both time and control risk yield regulatory uncertainty and increase the fear of unequal treatments toward the foreign investors.

According to the comparison of FDI regulation in China, Taiwan and Hong Kong, they are the growing telecom markets with different levels of regulation maturity. Hong Kong is the most liberalized market, while Taiwan and China are more conservative. For international telecom operators, FDI regulations are expected to be transparent and consistent with international organizational guidelines. Moreover, implicit FDI implementation attitudes are also important. If the regulatory is unpredictable and tightly controlled by the host country government, foreign investors' uncertainty would be increase. Thus, investors' uncertainty resulting from both explicit regulation articles and implicit regulatory attitudes are termed as regulation risk in this study.

For foreign investors, deciding the best alliance mode for dealing with regulation risk is an important but challenging issue. Theoretically, there are divergent arguments. From the bargaining power perspective, the extent of risk depends on the relative power of the two parties (Farge and Well, 1982; Makino and Beamish, 1998; Gomes-Casseres, 1990). When foreign investors provide the host country with resources which the host country needs, investors' bargaining power is enhanced, resulting in less regulation risk (Blodgett, 1991). In other words, when foreign investors provide the substantial resources, their relative importance as contributors to the industry enables them to avoid regulation risk in the host country. In the telecoms alliances, when international telecom operators acquire some equity of local partners, they provide not only capital resources but also telecom technology know-how, which local partners needs. Therefore, equity alliances become a protection mechanism for international telecoms operators.

On the other hand, some research supports an opposite viewpoint. Under the heading of environmental uncertainty, organizational flexibility is essential in the strategic alliances (Kim and Hwang, 1992; Anderson and Gatignon, 1986). Organizational flexibility prevents firms from getting into long entanglements and gives them the ability to adjust a changing environment. In the international context, to overcome regulation risks in the host country, foreign investors must increase their organizational flexibility via non-equity involvement or relatively low-resource

commitments. In the telecom emerging markets, where FDI regulation keeps changing, recurrent alliances in less binding relationships would be a better choice if international investors would like to decrease regulation risk.

The divergent arguments provide the inconsistent arguments on the relationship between regulation risk and choice of alliance mode. Both equity and recurrent alliances establish differential protection mechanisms to reduce regulation risk. Thus, we assume that equity alliances and recurrent alliances are appropriate alliance modes in an environment with high regulation risk.

H1: For international telecom operators, the greater the regulation risk in the host country, the greater the propensity to make the alliances by equity and recurrent alliance modes.

4.2 Inter-Organizational Relationship Factor: Trust

Inter-organizational trust has been conceptualized as the mutual confidences in partners' motives, behaviors and the beliefs that neither party will behave opportunistically (Ring, 1996). Under international alliances context, foreign investors' choice on alliance mode may vary depending on their trust toward local partners. Essentially, trust may be evaluated from multiple sources. First, trust would be evaluated from "national culture". Foreign investors would trust more toward the local partners which have similar national culture. On the basis of similar national culture, partners would have more shared values and mutual understanding in dealing with alliance behaviors (Doney, Canon and Mullen, 1998; Rodriguez and Wilson, 2000). Thus, investors' trust may be enhanced from similar national culture.

Second, trust is also evaluated according to whether foreign investors' have repetitive alliance experiences with local partners (Ring and Van de Ven, 1992, 1994; Gulati, 1995). Based on previous cooperation experience, investors would believe that their partners still keep promises as before and fulfill obligations in the future. Therefore, repetition alliances between partners are likely to be the continuous commitments, which would strengthen the partners' trust. Third, trust is further measured by partners' international alliance experience. From the perspective of the learning curve, firms' ability in forging international alliances grows over time in a process of evolution, adaptation and replication (Trevino and Grosse, 2002; Ring and Van de Ven, 1994). If the local partners have rich experience in international alliances, they would develop more alliance know-how and cooperation ability than those without any international experience (Trevino and Grosse, 2002). Therefore, foreign investors would trust those local partners who have more international alliances.

In the international telecom alliances in China, Taiwan and Hong Kong, international telecom operators may choose appropriate alliance mode depending on the extent of their trust toward local partners. Regarding the relationship between trust and choice of alliance mode, several theorists in the inter-organizational relationship literature believe that both trust and equity control are means to enhance confidence in partners' behaviors (Currall and Judge, 1995; Das and Teng, 1998). If trust exists in the relationship, the partners perceive less opportunistic behavior leading to a reduction in transaction costs, such as bargaining or monitoring costs (Jennings, Gillin and Christodouloy, 2000; Das and Teng, 1998). It is unnecessary to increase equity control. Thus, when trust exists in strategic alliances, non-equity alliances (e.g. relational alliance, recurrent alliances) are more appropriate than equity alliances. Therefore, we assume that international telecom operators may choose relational and recurrent alliance modes when they trust their local partners.

H2: For international telecom operators, the greater the trust in the inter-organizational relationship, the greater the propensity to make the alliances by relational and recurrent alliance modes.

5. Research Method

In order to explore the determinants of international telecom alliance modes, this study designates variable measurements and data analysis as follows.

5.1 Measurement variables

The dependent variable, mode of strategic alliance, is a categorical variable including equity alliances, relational alliances and recurrent alliances. The independent variables fall into two types: regulation risk and inter-organizational trust. The first, regulation risk, is derived from time risk and control risk. Time risk is measured by gap in years between the year of commitments to WTO and the alliance year (YEAR) and represents the extent of regulation maturity. Control risk is measured by governmental attitudes toward foreign investment, including the extent of (1) lack of available investment protection schemes for foreigners (SUPPORT); (2) national protectionism (PROTECT); (3) government bureaucracy (BUREAU); (4) unequal treatment towards foreigners (TREAT); (5) deterrence of product and service legislation in business activity (DETER). These variables represent the proxy for regulatory factors in the host country (Makino and Beamish, 1998; Yiu and Makino, 2002). The data is acquired from the World Competitiveness Report (WCR), supported by the International and World Economic Forum.

Trust, a multi-dimensional concept, stems from culture similarity, repetitive alliances and international alliance experience. Culture similarity (CULTURE) is measured following Morosini, Shane and Singh (1998) on the basis of Hofstede's national culture scores. Repetitive alliances are measured based on whether partners have had prior equity (EQU) or non-equity (NEQU) alliances before. International alliances experience is measured by the number of local partners' international alliance during 1995~2001, including (1) equity alliances (IEQU) and (2) non-equity alliances (NIEQU). Both repetitive alliances and international alliance experience measurements are adapted from Gulati (1995).

5.2 Data analysis

To examine the determinants of international alliance modes based on regulation risk and inter-organizational trust, multiple discriminant analysis (MDA) is used to compare the differences among equity, relational and recurrent alliances. MDA produces discriminant functions to discriminate among alliance groups. Results can predict theoretical alliance modes which can be used comparison with actual alliance modes.

6. Results

Table 3 shows the discriminant function coefficients (DFC) and the structure loadings (SL) of each variable. Two significant discriminant functions, indicated by Chi-square, present significant variables for which SL are greater than .30 (Nunnally, 1967). The variables, YEAR, SUPPORT, PROTECT, BUREAU and TREAT, are significant in Function 1. These variables are consistent with the concept of regulation risk, so we named it "regulation risk". In Function 2, CULTURE, NEQU, IEQU, and INEQU are the significant variables, which are consistent with the concept of "inter-organizational trust". Thus, we named Function 2 "trustworthy partnership." In addition, because the percentage of explained variance in Function 1 is 71.3 and in Function 2 is 28.8, "regulation risk" can be seen to have greater discriminating power than "trustworthy partnership".

Table 3

Results of discriminant analysis

Variables	Function 1		Function 2	
	<u>DFC</u>	<u>SL</u>	<u>DFC</u>	<u>SL</u>
YEAR	.29	.52*	.01	.25
SUPPORT	-.99	.76*	.57	.29
PROTECT	.38	.50*	.12	.10
BUREAU	.73	.54*	.41	.18
TREAT	.56	.30*	.07	.01
DETER	.16	.02	.21	.09
CULTURE	.12	.21	.52	.45*
EQU	.08	.12	.42	.14
NEQU	.09	.08	.10	.52*
IEQU	.25	.29	.69	.60*
INEQU	.27	.15	.10	.41*
Percent of Explained Variance	71.3		28.8	
Wilk's Lamda	.672		.886	
Chi-Square	58.48		17.83	
Degrees of Freedom	22		10	
Significance of Chi-Square	.000		.058	

*are significant variables with over .30 loadings.

Table 4 is the group centroids for each alliance mode. The first discriminant function, regulation risk, separates relational alliances from equity and recurrent ones. The centroid is .374 for equity alliances, .367 for recurrent alliances and -.847 for relational alliances. It supports the first hypothesis that firms are more likely to adopt equity alliances and recurrent alliances than relational alliances when regulation risk is high. The second function, trustworthy partnership, separates equity alliances from the remaining two groups. The centroid is -.655 for equity alliances, -.026 for relational alliances and .278 for recurrent alliances. It provides the evidence to support the second hypothesis that when trust in the inter-organizational relationship is high, firms are more likely to adopt relational alliances and recurrent alliances than equity ones.

Table 4

Centroids in discriminant space

Modes of Alliances	Discriminant Function	
	<u>Function 1</u>	<u>Function 2</u>
Equity alliances	.374	-.655
Relational alliances	-.847	-.026
Recurrent alliances	.367	.278

The classification table (Table 5) indicates that 72.3% of strategic alliances are correctly classified. Press Q, the discriminatory power for unequal group sizes, is 95.11, which is larger than 6.63, critical value at significance level of 0.01(Hair, Anderson, Tatham, Black, 1998). Thus, the results have significant classification power, which indicates that two functions are effective in discriminating equity, relational and recurrent alliances.

Table 5

Classification results

Modes of Alliances		Predicted Amounts		
		Equity	Relational	Recurrent
Equity alliances	32	14 (43.8%)	4 (12.5%)	14 (43.8%)
Relational alliances	47	1 (2.1%)	30 (63.8%)	16 (34.0%)
Recurrent alliances	76	3. (3.9%)	5 (6.6%)	68 (89.5%)
Percentage of cases correctly classified: 72.3%				

* () means the percentages of alliances modes

7. Discussion and Conclusions

International strategic alliances in the telecom service sectors are commonplace. By utilizing international strategic alliances, telecom operators build-up telecom infrastructure, integrate service operations, standardize competing service systems and eventually provide a global service network. Although there are lots of benefits to building international alliances, international telecom operators may meet some difficulties as well, such as telecom regulation restrictions and unfamiliarity with partnerships in the host country. Focusing on the emerging telecom markets of China, Taiwan and Hong Kong, which potentially have the serious challenges, this study helps to explore the association between choice of international alliance modes and regulation risk in the host country, along with the extent of trustworthy partnerships. Based on this rationale, we present grounds to refine existing theories and explore the determinants. In accordance with the results of empirical analysis, we have discovered several important implications.

First, we find that equity alliances and recurrent alliances are mostly employed when international operators face high regulation risk in the host country. Through comparing the different levels of telecom regulation risk in China, Taiwan and Hong Kong, our results show that international operators tend to adopt equity alliances or recurrent alliances in highly regulation-restricted areas or period. After host governments remove these restrictions through step-by-step regulation openness or by

complying with international commitments, more mature telecom policy encourages foreign investors to plan long-term relational alliances. This finding supports both bargaining power and organizational flexibility arguments, and proves that both equity and recurrent alliances would be appropriate while facing high regulation risks. In other words, long-term relational alliances, which involve long entanglement but lack of protective mechanism, are inappropriate.

Second, one insight of particular interest revealed by this research is the sources of regulation risk. In the emerging telecom markets, telecom service sectors are in the developing stage, undergoing the complex contradictions between liberalization and national protectionism in the telecom service sector. In other words, although those developing countries may be similar in telecom policy, they have different regulatory attitudes on telecom liberalization. In our cases in China, Taiwan and Hong Kong, we found that whether FDI regulation is built-up is usually taken into consideration by foreign investors. Moreover, in addition to explicit FDI articles, implicit regulation attitudes are also vital roles when international telecoms operators enter the foreign markets. According to the finding, implicit factors include the extents of national protectionism, bureaucracy, unequal treatment, deterrence of legislation and lack of protection schemes in the host country. International telecoms operators would adopt specific alliance modes in cope with host country situations. In fact, most telecom service industries in the world are in the developing stage. Therefore, the critical indicators identified in our results in China, Taiwan and Hong Kong may apply to other emerging international telecom markets as well.

Third, this study provides evidence that non-equity alliances, including recurrent and relational alliances, are mostly employed when partners have higher trustworthy relationship. High trust reduces the need of formal, costly governance structure and coordinating costs. Our results show that international telecom operators evaluate the host country partners through cultural similarity and international alliances experience, which provides clues of partners' goodwill and reliability. The finding is in substantial agreement with theoretical arguments that trust, driven by similar national culture and local partners' international alliance experience, reduces transaction uncertainty and equity investment.

Fourth, our analysis also sheds light on the dynamic process of alliance modes. Because trust relationship between partners emerges and grows over time (Ring and Van de Ven, 1992), the choice of alliance mode changes as trust develops. Take the alliances between AT&T (US) and FarEasTone (Taiwan) and the alliance between Vodafone (UK) and China Mobile (China) as examples. Choice of alliance modes changes from equity alliances in the initial cooperation to non-equity alliances after

trust between the partners had developed. Hence, the shifting process of trust developments along with the growth of trust is may explain how and why the alliances evolve, transform and are sustained over time.

Theoretically, this study contributes to not only applying the conceptual constructs of the telecom service sectors but also to providing empirical evidence to support a theoretical framework. In order to complement previous research deficiencies in international telecom alliances, this study provides an empirical analysis on the choice of alliance modes from two aspects: regulation risk in the host country and trustworthy relationship between partners. Unlike previous study focused on specific aspect, the simultaneous effects increased the explanatory power on alliance model choice. Managerially, the findings provide several important suggestions. First, for international telecom operators, this study has identified regulation and trust factors which they have to be taken into consideration when companies make decisions about the choice of international alliance modes. Second, for the domestic telecom operators in the host country, particularly those who are expecting to offer global telecom service and developing advanced technology know-how, it is essential to build up a trustworthy relationship with international operators. Once the trustworthy partnership is built-up, local operators may acquire more telecom operational expertise from the experienced telecoms operators and eventually enhance the advantages in the domestic markets. Third, for the host countries which are signified as emerging markets in telecom service sectors, foreign investment seems to be the tool to accelerate telecom growth. The ways to attract foreign investment are explicit open-door telecom policy as well as supportive FDI attitudes, which are accompanied with equal treatments, scheduled open-door policy and integrity regulatory. Extremely strict policy and attitudes of host government may eventually result in the decrease of the foreign investors' interest in continuing their investment.

Several limitations should be taken into consideration when interpreting these findings. First, we explore the determinants of telecom alliance modes from regulation risk through secondary data. In terms of individual evaluation in each alliance, there is lack of subjects' measurements. However, the reason for employing secondary data is an effective way to observe longitudinal change, which is absent in questionnaires. In order to overcome secondary data limitations, we use the large sample survey conducted by World Competitiveness Report, which may provide the complementary indicators.

Second, although our study examines repetitive alliances and international alliance experience, we did not include overall experiences in global operations or previous FDI experience in markets outside of China, Taiwan and Hong Kong. Although

previous experiences in other countries may not fully apply to the markets in China, Taiwan and Hong Kong, they may still affect decision making. Thus, future research should go further in exploring the impact of overall global experiences on the alliance modes in a specific host country.

Speculative extrapolation of our results suggests that they may be fruitful to view international telecom alliance modes as the simultaneous results of regulation risk and inter-organization trust. Future studies may seek to investigate the phenomenon through related variables consistent with our analysis.

8. Reference

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