Strategic Alliances and Technology in Tourism

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ABSTRACT

The purpose of this paper is to examine the role of strategic alliances in developing technology-based knowledge. In doing so, the study further links assessment of strategic alliance outcomes (technology benefits) to tourism executives' risk taking behaviour. A survey of Australian travel sector businesses was carried out and the results indicate that strategic alliances in tourism contribute marginally to technology-based knowledge. The study further found that executives in the travel sector of tourism are risk averse and this has tremendous implications for the choice of alliances they make and their perceptions with regard to the contribution of these alliances to technology-based knowledge. The findings of this paper imply that Australian industry policy needs to encourage strategic alliances that have the potential to stimulate knowledge based innovation.

Keywords: *Strategic alliances, Technology-based knowledge, Tolerance of ambiguity, Willingness to take risk, Innovation*

INTRODUCTION

"Why companies cooperate in their efforts to innovate" has been a significant research question addressed by many researchers and most clearly delineated in the seminal work of Hagedoorn (1993). Essentially this area of research relates to the motives of business executives for cooperating with rival companies in accessing and developing technology-based knowledge. Hagedoorn (1993)

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investigated nearly 10,000 technology cooperation agreements in a literature-based content analysis to identify the nature and motives of the specific technology-based cooperation – given the name strategic technology alliances (STA). In his study of fifteen different sectors (and a small group of "other"), Hagedoorn found, not surprisingly, that gaining specific technology-related knowledge was the dominant motive for STA in high-technology sectors, whereas in the other sectors it was more to do with using technology for market access, developing new products and monitoring the business environment. Also, he found that equity-based STA (especially joint ventures) are a complex form of alliance that pertain to long-term knowledge-building, while simpler non-equity STA (e.g. contractual) are related to more short-term one-dimensional knowledge application.

Although the tourism industry does not have specific technology cooperation agreements, it is an industry that has been relatively neglected by researchers on the contribution of strategic alliances to technology-related knowledge development. Given the extraordinary development in many technologies since 1993, especially the use of information and communications technologies (ICT), and the significant increase in the use of such technologies in the tourism industry, there is a clear need to investigate the impact of SA on technology-based knowledge in tourism. This paper examines the assessment of tourism business executives of the contribution that SA make to technology-based knowledge, whether in pure technological terms, or for market related reasons. The authors conducted a survey of tourism mangers in a nation with a significant tourist-based sector – Australia. The next section reviews the literature on technology-based SA, especially in tourism. Then a theoretical framework is set up in order to appreciate the nature of the survey conducted. Details of the survey follow, with results subsequently presented to discover what tourism executives consider is the impact of SA on technical and market knowledge and the role that equity and non-equity alliances play in this assessment. Then follows discussion on how executives assess technology-based cooperation within tourism and the implications this has for SA management and policy. Finally, the significance of this research is found in the conclusion.

LITERATURE REVIEW

SA have become one of the most important organisational forms in modern society and they are a well-known management approach available to, and used by, multinational business executives (Mockler, 2001), as well as organisations competing in domestic markets (Morrison, 1994). SA have been used by organisations of all sizes – large and small (Etemad, Wright & Dana, 2001; Golden & Dollinger, 1993) and are of considerable interest to both industry practitioners and academics (Clarke-Hill, Robinson & Bailey, 1998; Zeng &

Chen, 2003). Despite this trend, the failure rate of SA has been very high (Das, 2004, 2005; Geringer & Herbert, 1991; Gulati, 1998; Killing, 1982; Prevot & Meschi, 2006). There are many reasons for SA failure and two major reasons have been analysed in the literature. One is the opportunistic behaviour of partners (Das, 2004, 2005; Das & Teng, 2001; Ireland, Hitt & Vaidyanath, 2002; Stanek, 2004). The other is the purely unknown likelihood of success related to innovative application of technology-based knowledge (Hagedoorn, 1993; Scheel, 2002). Both imply that there is risk and uncertainty associated with SA. Business executives form SA knowing the potential risk and uncertainty associated with these inter-firm cooperative arrangements. Therefore, this paper argues that the level of risk-taking attitude displayed by executives impacts upon the choice of alliance types and alliance evaluation. The central research objective of this study is to assess the impact of company executives' risk attitude on alliance performance with respect to technology. Thus, the focus is on the motives for SA with a view to answering the question: how do company executives' risk attitudes on the assessment of technology impact on SA?

While it is generally recognised that SA are risky, no studies have drawn a link between executives' propensity to take risk and strategic alliance innovativeness outcomes. Bearing in mind that strategic choices are associated with uncertain outcomes, it can be argued that managerial decisions reflect managerial risk-taking attitudes. Risk is recognized as a key factor in strategic decision making (Das & Teng, 1996) and SA form a unique part of organisational strategy (Pansiri, 2005) which involves a certain level of risk. Wally and Baum (1994) found that chief executive officers' cognitive ability, use of intuition, tolerance of risk, and propensity to act were associated positively with speedy decisions; and Gupta and Govindarajan (1984) found that greater willingness to take risks and greater tolerance of ambiguity contribute to organisational effectiveness. Das and Teng (1996) attribute the choice between equity and non-equity alliances to risk that is associated with particular alliance types.

Business organisations form SA due to a number of internal and external forces. Numerous studies have identified several drivers leading to the formation of SA (Contractor & Kundu, 1998; Dussage & Garrette, 1999; Evans & Peacock, 1999; Evans, 2001; Faulkner, 1995; Howarth, Gillin & Bailey, 1995; Pansiri, 2005, 2006c, 2007). These drivers include, but are not limited to, internal resources and risk sharing (Colombo, 2003). Companies are driven to form SA by lack of sufficient internal resources (Colombo, 2003). Often this lack of resources resides in technological capabilities (Whipple & Gentry, 2000), therefore competitive advantage is believed to be achievable through forming alliances with partners who offer new technology-based knowledge, particularly in research and development (R&D). Furthermore, as businesses are increasingly relying on instantaneous information exchange, it is difficult for firms to stay in the forefront of technological advances. Hence, the necessary R&D skills and facilities may be lacking to undertake R&D internally. Therefore, a goal of

many organisations is to ally with a partner that has sophisticated information capabilities, (Doz & Hamel, 1998; Whipple & Gentry, 2000). In addition, firms desire to gain access to a partner's R&D expertise, which could result in improvement of its product development process as well as shortening critical lead-times in order to bring new products to market more quickly. Alliance partners may bring new ideas for product and process improvements.

Technology-based SA have also been associated with spreading the risk of developing new products. Howarth et al. (1995) maintain that a typical example of SA are consortia that provide benefits to member organisations by spreading the risk of developing new products and processes because they involve many organisations across different industries. Doz and Hamel (1998) and Sakakibara (2002), support this. Doz and Hamel (1998, p. 3-4) observe that in order to develop and build a global satellite-based mobile communications network, Motorola needed funds and complementary capabilities (particularly for space technologies). To secure these, it brought together an exceptional coalition of seventeen equity-holding partners to form Iridium in the 1990s. Sakakibara (2002, p. 1034-1035) argues that the primary motives for forming R&D consortia are sharing of fixed costs among R&D participants, realising economies of scale in R&D and avoiding "wasteful" duplication.

In the context of tourism, one of the characteristics of dynamic networks is the broad availability of open information systems which all network members can access through computerised systems that handle the communication and information flows within the network (Go, Govers & Heuvel, 1999). Bentley as cited by Go et al. (1999, p. 15) explains that

> ...technologies first penetrated sector by sector – airlines, hotels, car rentals, travel agencies, now destinations. The second stage is integration of the sectors, which is on going...The third stage is delivery of these technologies to the retail trade, also under way. The fourth is integrating the individual consumer into the use of information technology.

The tourism industry has embraced technology because of its opportunity to improve companies' interactivity with their consumers and stakeholders because more people use ICT (including Computer Reservation Systems [CRS], Global Distribution Systems [GDSs] and the internet) to locate and purchase tourism and accommodation products (Buhalis, 1999).

A number of studies have indicated the use of technology by tourism businesses, particularly the adoption of ICT. Daniele and Mistilis' (1999) study indicates a very high need for information technology by tourism organisations in Australia. These organisations included transportation (airline and car rental firms), travel intermediaries (travel agencies and tour operators) accommodation establishments and government organisations. A similar study was carried out by Evans and Peacock (1999), assessing the extent of awareness and development of

ICT applications in comparison to both the global tourism system and national, regional and local tourism information and promotion. The study encompassed a wide range of tourism organisations including museum, gallery or heritage sites, arts and entertainment venues, hotel and accommodation providers, visitor attractions, tour operators, restaurants, travel agencies, tour guides and tourist information centres in the UK which participated by responding to a questionnaire. The study recognised a very high domination of ICT and online reservation systems by the major travel and tour operators and integrated chains (e.g. hotels, car hire, tour operators, travel agents and transport carriers). However, the study also found that problems of accessing such systems by small-to-medium sized enterprises (SMEs) meant that most tourist organisations (who are SMEs) used the relatively low technology solutions of teletext, telephone, fax, email and internet/web for reservation/booking by customers.

Brown and Pattinson (1995) studied alliance relationships and communication technologies used by Radisson Hotel Australia (RHA) operating in the Australian travel and hotel environment. RHA is licensed by Radisson Hotels International (RHI) whose brand was developed in the 1960s in the USA to provide hotel management services to hotel property owners using the Radisson name and systems in Australia, New Zealand and the South West Pacific, including selected Asian countries (Brown & Pattinson, 1995). The study found that RHA is linked to RHI through RHI's centrally managed global reservation system, which links RHI with the Radisson hotels. Brown and Pattinson (1995) also found that RHA and its alliance partners (Qantas, Ansett, Telecom, suppliers, property owners, Radisson Hotel Philippines, Indonesian partners, Radisson Hotel Malaysia, RHI, and Fantasia/Southern Cross) use e-mail, the Pierre reservation system, telephone, facsimile and Interactive linkage as their communication media.

Research in the travel agency sector has produced mixed results with respect to ICT usage. For example, Luk (1997) examined the relationship between marketing culture and perceived service quality and its implications for managing service quality in the tourism industry. He found that all the travel agencies in Hong Kong which participated in the study placed a greater emphasis on "service quality" but a moderate emphasis on "organisation" while at the same time giving lower priority to fostering "international communication" and "innovation." Luk's findings are supported by Vasudavan and Standing (1999, p. 225) who found that the travel agency sector in Australia does not create a dynamic environment for change and is characterised by low levels of motivation and innovation. Vasudavan and Standing studied travel agencies in the Perth Metropolitan region of Western Australia and found that only 45 per cent of the respondents had access to the internet from their offices, mostly using technology such as electronic mail, electronic file transfer, a World Wide Web browser and the World Wide Web. Deng et al. (2000) did an exploratory study on travel agents' attitudes toward automation in Canada and New Zealand and found that there are four distinct groups of agents whose attitudes towards automation

differ quite substantially, and these attitudes are related not much to the current use of technology but more to perceived future usage. They found that:

> Attitudes toward automation are characterized by insecurity in the threats that they perceive from direct selling and potential control by operators. They also perceive fewer benefits in automation in terms of its contribution to specific aspects of service, though they apparently recognize its contribution to overall quality (Deng et al., 2000, p. 66).

Notwithstanding the above, Deng et al. (2000, p. 60) argue that modern society is embarking on a new era – the "high tech/high touch" society. In most industries technology has become one of the key driving forces influencing the competitive process (Deng & Ryan, 1992; Erdly & Kesterson-Townes, 2003). Similarly, the travel industry is essentially an information-based industry and information technology has become an integral part of the communication process to the extent that it is practically impossible to survive and attain a substantial competitive advantage as principal, carrier or agent without investing in automation (Deng et al., 2000). Erdly and Kesterson-Townes, (2003, p. 15) add that the internet and new technology applications are transforming global business through the formation of e-markets, on-line exchanges, and networked business communities which are creating tremendous opportunities for companies to transition their business models towards de-capitalised external networks – using alliances and outsourcing arrangements, for example – rather than owning and operating every aspect of the value chain. They argue that hospitality and leisure companies will turn to networks that more efficiently deliver capabilities in non-core functions, including certain parts of the supply chain, finance, human resources, ICT, and other areas with a view to offering a better quality product and a more customised guest service with a lower structure. This is supported by Raymond (2001, p. 411-412) who regards the travel industry as a prime example of a sector that has been profoundly impacted by information technology through applications such as CRS, Destination Information Systems [DIS], GDS, and Web-based applications that allow consumers and corporations to obtain travel information and advice, compare prices, and book their own transportation, lodging, and other services.

Technology provides marketing, as well as the creation and distribution of tourism products. Most tourism companies are SMEs who lack capital investment and specialist training to acquire and manage technologies successfully. Therefore, forming SA either with partners who are able to offer new technologies (i.e. on line reservation systems by major travel and tour operators and integrated chains such as travel agencies) or with other SMEs with a view to bringing together scarce resources, are important aspects of achieving technological capabilities that because of size they would be unable to accomplish on their own.

FRAMEWORK OF THE STUDY

Researchers have identified risk-sharing as an important motive for entering into SA (Das & Teng, 1996; Whipple & Gentry, 2000). This forms the basic theoretical framework for this study. While SA presents new opportunities with risks that can be shared, they also expose participants to other forms of risk, broadly called alliance risk. Organisations often take on such alliance risk because they want to reduce risk in other areas. For instance, SA often limit the discretion, control, and profit potential of partners, while demanding managerial attention and other resources that might be directed toward the firm's mainstream activities. Furthermore, in such ventures there is the risk that partners may have different learning rates, so that one firm's competitive advantage may erode as critical tacit knowledge is leaked (Bierly & Kessler, 1998), leading to possibilities that the company that has gained more may decide to move out of the venture and stand alone.

The construct of alliance risk in SA can be disaggregated into relational risk and performance risk (Das, 2004, 2005; Das & Teng, 1996, 2001; Ireland et al., 2002; Stanek, 2004). Relational risk is associated with the opportunistic behaviours that are oriented to the individual firm's benefit rather than to the good of the alliance (Ireland et al., 2002) which subsequently have negative impacts on the other partner. Performance risk is associated with failure arising out of the uncertainty of future commitments with the external environment, despite partners committing themselves fully to the alliance (Das, 2004, 2005; Das & Teng, 1996). Ireland et al. (2002) discusses these two types of risk in strategic alliances as follows:

> There are at least two types of alliance risks – relational and performance (Das and Teng, 2001). Relational risk is concerned with the probability and consequent actions when a partner does not appropriately commit to an alliance and fails to behave as expected. Thus, relational risk denotes decision makers' concerns regarding the level of cooperation between partners. Opportunistic behaviors that are oriented to the individual firm's benefit rather than to the good of the alliance demonstrate relational risk. Performance risk regards the factors that may impede achieving alliance objectives. Relational risk is internally oriented and is influenced in part by how each partner allocates and manages the resources it commits to an alliance. In contrast, performance risk is externally focused. Relational risk is associated with the relationship between partners; performance risk is grounded in the interactions of alliance partners with the external environment. Finally, performance risk is common to all strategic decisions while relational risk is idiosyncratic to individual strategic alliances (Das and Teng, 1996, 2000b, 2001). Alliance managers can

have a much broader and deeper effect on relational risk, primarily by carefully managing the firm's social capital.

In order to assess the impact of company executives' risk attitude on alliance performance with respect to technology, a framework of analysis is developed. This framework identifies four risk elements. The first two are based on the above quote from Ireland et al. (2002). The *relational elements* are specifically associated with protecting firm resources while gaining access to new partner resources; contractual control; managerial control; specificity of work share; extent of communication; alliance fit or tightness of fit; and cooperation and competition. The *performance elements* relate to association with parent strategic vision; the degree to which agreements can be modified; the likelihood of losing investments (often non-recoverable); exit provisions; controls; new learning applications; compatible objectives; and short- and long-term orientations (Stanek, 2004, p. 191). The remaining two risk elements that occur under SA are identified by Stanek (2004). The *contextual elements* relate to uncertainty in the market, including: political, ownership/control, price control, local content and transference problems. The *transactional elements* relate to factors associated with the specific SA arrangement, including not meeting established project objectives and returns. The four elements together make up the full complement of the risk elements that create uncertainty for any SA arrangement. What is important in appreciating these four risk elements is the willingness of executives to take the risk and uncertainty of becoming involved in a SA and the required tolerance for ambiguity which is crucial in handling all such four elements while contributing to organisational effectiveness (Gupta & Govindarajan, 1984).

The survey outlined below specifically addresses the issue of tolerance for ambiguity in a situation of uncertainty that cannot be reduced to a calculable probability, and willingness of executives under these circumstances to take "on board" the risk elements involved in committing to SA. The survey then asked executives to address specific concerns that they may have with technology. These concerns can be related back to their tolerance of risk in concert with whether the SA is an equity or non-equity type.

RESEARCH DESIGN

A survey instrument was used to collect the data required for this research. This instrument was made up of three parts. Part I requested respondents to fill in firm/company details. Part II asked questions about SA the organisation was involved in, and Part III requested the respondent's personal details. Part II had four sections: types of alliances, drivers for alliance formation in the tourism industry, choice of alliance partners, and alliance performance. This

paper only reports the results for Parts I and III, and the first subsection of Part II – strategic alliance types.

To generate measurement items, exploratory research can use several techniques, "including literature searches, experience surveys, and insight stimulating examples" (Churchill, 1979, p. 67), focus groups involving relevant actors, and analysis of critical incidents (Parkhe, 1993). For this survey, extensive review of the literature was undertaken with emphasis on generating a pool of items that taped the core theoretical constructs. This survey includes much of this literature. Details are set out below.

Respondents were asked to report their age, tenure of office (Michel & Hambrick, 1992), educational level, past functional experience (Hambrick & Mason, 1984; Rajagopalan & Datta, 1996) and whether they were employed executives or owner-managers. The other managerial characteristics of respondents investigated were: (a) *Tolerance for ambiguity*. This was measured by four items developed by Lorsch and Morse and adapted by Gupta and Govindarajan (1984, p. 33). For each of the statements, respondents were asked to indicate on a five point Likert scale whether they (1) strongly disagree with (5) strongly agree. (b) *Willingness to take risk*. This was measured using six financial risk items from Weber, Blais and Betz's (2002) domain-specific risk-attitude scale. For each of the statements, respondents were asked to indicate on a five point Likert scale whether it was (1) extremely unlikely to (5) extremely likely for them to engage in the activity. These items are listed on Table 1, with the first four factors related to ambiguity and the next six related to risk.

Subjective measures were used to measure the impact of technology-based knowledge on SA in tourism. Two items were adapted from Geringer and Hebert's (1991) 14-item scale. Respondents were asked to evaluate the strategic alliance's actual performance by assessing their current company/ firm's performance versus its performance before joining the strategic alliance on technology development and accessibility to skills. This assessment was carried out using a five point Likert scale ranging from (1) "much worse" to (5) "much better". Furthermore, a five point Likert scale ranging from (1) "strongly disagree" to (5) "strongly agree" was used to measure managerial perceptions using three items about the level of satisfaction with the alliance technology-based knowledge. The item "The alliance has enabled us to develop new technology processes" was adapted from Doz et al. (2000) while "We have benefited from technology transfer from our partners" was adapted from Kotabe et al. (2003). "We have learned or benefited from our partner's specific skills and competencies" was adapted from Tsang (2002). These five technology associated benefit items are shown in Table 3.

Respondents were also asked to indicate out of eight the types of alliances their companies were involved in, both in Australia and abroad, and from which sectors in the tourism industry their alliance members came, and further name

Table 1: Tolerance for ambiguity and willingness to take risk factors

1	The most interesting life is to live under rapidly changing conditions (**Changing conditions**)
2	Adventurous and exploratory people go farther in this world than do systematic and orderly people (**Adventurous people**)
3	When planning a holiday, a person should have a schedule to follow if he/she is really going to enjoy himself/herself (**Holiday planning**)
4	Doing the same thing in the same places for a long period of time makes for a happy life (**Happy life**).
5	Investing 10% of your annual income in a blue chip stock (**Annual income**).
6	Investing 10% of your annual income in a very speculative stock (**Speculative stock**).
7	Investing 10% of your annual income in government bonds or treasury bills (**Government bonds**).
8.	Lending a friend an amount of money equivalent to one month's income at no interest (**Lending a friend**).
9.	Taking a day's income to play the poker -machines at a nearby club (**play poker –machines**).
10.	Taking a job where you get paid exclusively on a commission basis (**paid on commission**).

and evaluate their best strategic alliance. These alliances were Joint venture (JV), Equity participating alliance (EPA), Brand sharing (BSA), Franchises and licensing (FLA), Marketing and distribution agreements (MDA), Joint selling or distribution (JSA), Sharing information and communication technology (SICA), and Joint purchasing and equipment/office sharing (JPEA).

A random sample of 600 businesses was developed and questionnaires sent out (435 electronic and 165 hard copies) in Australia. A total of 127 completed and returned the survey during the four months (April – August 2005) of the data collection period (a 21 per cent response rate). Out of these, 117 (92 per cent) were found useable for the study. Thirteen respondents did not have strategic alliances. Of the 100 respondents who reported having strategic alliances, 57 per cent had low (1-2), 25 per cent had medium (3-4) while 15 per cent recorded high (5 and above) levels of strategic alliances.

The majority (75.4 per cent) of the sample firms were small with fewer than 20 employees while 57.3 per cent were family owned and 72.8 per cent had annual turnover not exceeding AU$3 million. Although 72.5 per cent of the companies participating in the survey were managed by founder members, 68.4 per cent of the respondents were either CEOs/MDs, and 67.3 per cent were owner-managers. Only 14.4 per cent of the executives of the participating firms had up to 5 years experience while 53.9 per cent had worked for the same company for more than 10 years. The majority of the respondents (46.6 per cent) were above 50 years of age. The most popular alliances in the travel

sector were found to be MDA (71.2 per cent), SICA (49 per cent), JSA (36 per cent), FLA (31.7 per cent), JV (30.8 per cent), BSA (23.1 per cent), JPEA (20.2 per cent), and EPA (8.7 per cent).

RESULTS

Table 2 presents the rank order of the tolerance for ambiguity and willingness to take risk factors based on the mean measure of the importance of the factor. This ranking shows that the first three items are tolerance for ambiguity factors, with adventurous people having a mean of 3.59. The table also shows that most executives are risk averse because these factors have a highest mean of only 3.59 with the lowest mean of 1.10 out of a possible maximum of 5. Table 2 also indicates the level to which these items are correlated. Churchill (1979, p. 68) argues that "if all items in a measure are drawn from the domain of a single construct, responses to those items should be highly intercorrelated." Most of these items are not correlated, and those with a significant correlation have a low (r) meaning that these measures are not very consistent. The highest correlation is between speculative stock and annual income ($r = .602$, $p < .01$).

Table 2: Descriptive Statistics and Spearman correlation metrics of tolerance for ambiguity and willingness to take risk factors

		Mean	SD.	1	2	3	4	5	6	7	8	9	10
1	Adventurous people	3.59	0.929	1									
2	Changing conditions	3.55	0.957	.424**	1								
3	Holiday planning	2.77	1.015	.112	.143	1							
4	Annual income	2.68	1.234	.047	.200*	.042	1						
5	Lending a friend	2.50	1.247	.049	-.061	-.109	.158	1					
6	Government bonds	2.17	1.008	.068	-.036	.034	.428**	.247**	1				
7	Speculative stock	2.07	1.106	.216*	.292**	.070	.602**	.247	.414**	1			
8	Happy life	2.06	0.927	-.085	-.144	.276**	.040	.025	-.132	-.040	1		
9	Paid on commission	1.92	1.142	.241*	.243*	-.033	.151	.035	.188*	.252**	.029	1	
10	Play poker –machines	1.10	0.357	.104	.026	.047	.052	-.031	.111	.167	.024	.223*	1

Notes: SD = Standard deviation; †$p < 0.10$; *$p < 0.05$ and **$p < 0.01$; Mean calculated from a minimum of 1 and a maximum of 5.

Table 3 presents the rank order of technology items based on the mean measure of the importance of each factor. This ranking shows that all these items have a mean measure greater than three, with the highest being accessibility to partner's skills (mean = 3.50), and the lowest being technology transfer (mean = 3.20). Table 3 further shows that these items are correlated. The extremely high inter-correlation between these technology items indicates that executives

evaluate them holistically rather than seeing them as individual isolated items when accessing the benefits of strategic alliances. For example, technology transfer between alliance partners is a result of accessibility to the alliance partner's skills ($r = .402$, $p < .01$), learning from the alliance partner ($r = .452$, $p < .01$), leading to technology development ($r = .591$, $p < .01$) and developing new technology ($r = .462$, $p < .01$).

Table 3: Descriptive statistics and Spearman correlation metrics between technology items

	Mean	SD	1	2	3	4	5	6
1. Accessibility to skills	3.50	0.83	1					
2. Technology development	3.45	0.93	.497**	1				
3. Learning from partner	3.74	0.84	.289**	.229*	1			
4. Develop new technology	3.30	1.09	.362**	.604**	.331**	.369**	1	
5. Technology transfer	3.20	1.14	.402**	.591**	.452**	.462**	.759**	1

Notes: SD = Standard deviation; †p < 0.10; *p < 0.05 and **p <0.01; Mean calculated from a minimum of 1 and a maximum of 5.

Chi-square analysis was employed to assess the degree to which technology associated benefits of a strategic alliance are related to executives' risk taking and tolerance of ambiguity attitudes. Executive characteristics (tolerance for ambiguity and willingness to take risk) factors were treated as independent variables and were cross-tabulated with dependent factors (perceived technology associated benefits) by best strategic alliance type (equity vis-à-vis non-equity). For Chi-square analysis to be performed, tolerance for ambiguity and willingness to take risk factors were recoded from a five point Likert scale of 1 to 5, to (1) low and () high. The eight best alliance types were also recoded as follows: JV and EPA were recoded as 'equity alliance' while the rest were recoded as 'non-equity alliances'. These factors were recoded because some cells had expected counts less than five (Coakes & Steed, 1999; Field, 2005).

The F-test in Table 4 links the tolerance of ambiguity and risk factors to the five technology associated benefit items. The results show that there are significant relationships between 'accessibility to skills' and 'adventurous people' for both equity alliances ($p < 0.10$) and non-equity alliances ($p < 0.01$), 'changing condition' for equity alliances ($p < 0.01$) and non-equity alliances ($p < 0.10$), 'holiday planning' for non-equity alliances ($p < 0.05$), 'government bonds' for non-equity alliances ($p < 0.05$), and 'speculative stock' for non-equity alliances ($p < 0.10$). Table 4 also shows significant relationships between 'technology development' and 'adventurous people' for non-equity alliances ($p < 0.10$), 'changing conditions' for equity alliances ($p < 0.10$), and 'holiday planning' for non-equity alliances ($p < 0.10$). There are no significant relationships between 'learning from partner and any of the risk factors. However, there are significant

Table 4: Chi-square analysis of executives' risk attitudes and technology benefit of SA

Technology associated benefit	**Accessibility to skills**				**Technology development**				**Learning from partner**				**Develop new technology**				**Technology transfer**			
Alliance type	***Equity***		***Non-equity***		***Equity***		***Non-equity***		***Equity***		***Non-equity***		***Equity***		***Non-equity4***		***Equity***		***Non-equity***	
RISK	c^2	CV	c^2	CV	c^2	CV	c^2	CV	c^2	CV	c^2	CV	c^2	CV	c^2	CV	c^2	CV	c^2	CV
Adventurous people	2.86†	.535	6.79**	.289	1.27	.356	3.50†	.204	0.23	.048	0.14	.013	0.48	.218	2.28	.166	0.02	.048	1.14	.117
Changing conditions	4.44*	.667	2.96†	.188	3.40†	.583	0.88	.102	1.27	.125	1.67	.408	1.67	.408	3.89*	.216	0.08	.089	0.83	.100
Holiday planning	0.10	.102	3.72*	.210	0.10	.102	3.21†	.195	0.48	.218	0.33	.063	1.41	.375	6.93**	.289	0.48	.218	2.05	.157
Annual income	0.00	.000	2.13	.160	0.90	.318	0.33	.063	1.29	.378	0.55	.082	3.94*	.661	0.27	.057	9.00**	1.00	0.02	.016
Lending a friend	0.00	.000	0.28	.018	0.23	.153	0.21	.051	0.32	.189	0.00	.004	0.32	.189	0.43	.073	2.25	.500	4.30*	.229
Government bonds	2.25	.500	4.24*	.226	0.90	.316	0.22	.052	0.32	.189	1.35	.128	1.29	.378	0.74	.095	0.56	.250	0.59	.098
Speculative stock	0.32	.189	3.79†	.214	0.03	.060	0.42	.071	0.74	.286	0.00	.003	1.15	.357	0.73	.094	5.14*	.759	0.51	.079
Happy life	1.67	.408	1.92	.151	0.74	.272	0.09	.032	2.59	.509	2.33	.025	0.78	.167	0.51	.078	0.48	.218	0.01	.010
Paid on commission	α	α	0.38	.068	α	α	0.02	.016	α	α	1.79	.148	α	α	0.04	.021	α	A	0.04	.022
Play poker – machines	α	α	α	α	α	α	α	α	α	α	α	α	α	α	α	α	α	A	α	α

Notes: †p < 0.10; *p < 0.05 and **p < 0.01; α where no statistic is computed because one of the variables is constant

relationships between 'developing new technology' and 'changing conditions' for non-equity alliances ($p < 0.05$), 'holiday planning' for non-equity alliances ($p < 0.01$), and 'annual income' for equity alliances ($p < 0.05$). 'Technology transfer' is significantly related to 'annual income' for non-equity alliances ($p < 0.01$), 'lending a friend' for non-equity alliances ($p < 0.05$), and 'speculative stock' for equity alliances ($p < 0.05$).

DISCUSSION AND IMPLICATIONS

The purpose of this paper was to examine the assessment of tourism business executives for the contribution that SA make to technology-based knowledge by considering their risk attitudes. Few strategic alliance researchers have included risk taking as a variable in their research (Tyler & Steensma, 1998), and there are no studies that examine such risks in the context of the tourism industry. This paper presents a mixture of results. The first to consider is that SA in tourism contribute only marginally to technology-based knowledge. The highest mean out of a maximum of 5 is 3.50 for 'accessibility to skills', with a lowest mean of 3.20 for 'technology transfer'. This is associated with the fact that technology in tourism is geared towards enhancing the quality of service and not central to technical production or producing the technology itself. The same can be said of the executives' risk taking attitudes. Out of ten factors evaluating executives' attitudes towards risk, eight of them have a mean less than three out of a possible maximum of five. Executives in tourism are risk averse and this has tremendous implications for the choice of alliances they make and their perceptions regarding the contribution of these alliances to technology-based knowledge.

This study aimed to broaden the investigation further by including tolerance for ambiguity (Gupta & Govindarajan, 1984) and willingness to take risk (Weber et al., 2002) items. It was anticipated that the technological benefits of SA would have significant relationships with these risk domains. This study found significant relationships between a number of tolerance for ambiguity and risk factors, and technology items. For instance, significant relationships were found between 'adventurous people' and 'accessibility to skills' for both equity and non-equity alliances. The majority of risk adverse executives (75.8 per cent) rated 'accessibility to skills' in non-equity alliances as low, while 52.9 per cent of risk takers rated 'accessibility to skills' as high in equity alliances. In addition, 100 per cent of risk averse executives rated 'accessibility to skills' as high in equity alliances, while only 42.9 per cent of risk takers rated the same as high. For 'changing conditions', 100 per cent of risk averse executives rated 'accessibility to skills' as high in equity alliances while 66.7 per cent of risk takers assessed the same as low in equity alliances. The majority of risk averse executives (changing conditions) rated 'development of new technology processes' as low in non-equity alliances as compared to 50 per cent of risk takers, and 66.7 per

cent of risk averse executives (holiday planning) rated 'development of new technology processes' as low in non-equity alliances as compared to 65.2 per cent of risk takers who rated the same as high. One hundred per cent of those who rated 'technology transfer' in equity alliances as low are risk averse executives compared to 100 per cent of risk takers who rated the same as high. In addition, 100 per cent of risk averse executives (speculative stock) rated 'technology transfer' as low while 66.7 per cent of risk takers rated it as high.

The implications of this study are varied. Firstly, this study shows that strategic alliances in tourism do not necessarily enhance technology-based knowledge. While there are significant associations between the technology items, their mean is relatively low. Secondly, the assessment of the contribution of alliances to technology is strongly influenced by executives' attitude towards risk. Most risk averse tourism executives see alliances as contributing less to technology-based knowledge. However, risk averse tourism executives are more positive about equity alliances than non-equity ones. What this means is that executives should be very careful and more importantly aware of their attitudes towards risk, and this would help them in the choices they will make regarding the type of alliances they could be involved in. Thirdly, recruitment of top executives in tourism businesses should, among other attributes, place emphasis on risk taking. In this study 67.3 per cent of the businesses were managed by owner-managers, with businesses managed by adventurous and risk-taking executives having more alliances than those managed by less adventurous executives. Past studies show that alliances involve risk (see 2004; Das & Teng, 2001; Stanek, 2004). Executives whose businesses can effectively participate in alliances are risk takers. Gupta and Govindarajan (1984) found that greater willingness to take risks and greater tolerance for ambiguity contribute to organisational effectiveness.

Table 2 shows that most executives who participated in the survey are risk averse. While risk factors did not have significant relationships with most alliance formation factors in the matter of technological benefits, this study found that risk taking attitude has an influence on the manner in which executives perceive alliance technological benefits. Risk taking executives are more positive in respect to technology as compared to risk averse executives. Previous studies have found that SMEs, particularly family businesses, are highly dependent on a single-decision maker, the owner (Feltham, Feltham & Barnett, 2005) who is reluctant to delegate responsibilities to staff because he/she desires to maintain personal control of the business (Gilmore, Carson & O'Donnell, 2004). Poutziouris (2003) says that it has been acknowledged that personal aspirations of managers of entrepreneurial growth-ambitious firms impact positively on business development and performance. There is therefore need for risk taking and management training particularly for owner-managers. Gilmore et al. (2004) suggest that SME owner-managers could manage risk through networking and using managerial competencies. Owner-managers could be trained to acquire

skills necessary for networking and competency skills that could help them to form and manage effective strategic alliances.

CONCLUSION

Two facets of SA collide in this study. One facet is the clear benefits from technology-related SA. From as far back as Edwards (1955, p. 335), there has been the need for competitive firms "to cultivate a cooperative spirit, and to recognize priorities of interest in the hope of reciprocal recognition". Hagedoorn (1993) took this further by identifying the role of technology-related knowledge in such cooperative arrangements. Since the mid-1990s, the tourism industry has embraced technology – particularly ICT – in order to provide a more effective globally-based service for an industry that is so strongly influenced by information gathering (e.g Go et al. 1999). The other facet is the reluctance of SMEs in tourism to wholeheartedly embrace cooperative technology-based arrangements, despite substantial competitive advantage in technology uptake (e.g. Evans & Peacock, 1999). Further, Australia is a significant tourist-based sector, yet this sector has a relatively weak technology-based configuration – most notably in the SME part of tourism (Pansiri, 2006a, 2006c, 2008). This reflects the overall relatively weak position of ICT and more generally technology-based knowledge processing means of production in Australia (Engelbrecht, 1998; Sheehan, Houghton, Rasmussen, Sweeny, & Tegart, 2006). Together, these two facets point to an incongruous situation with significant disquieting consequences for both the SME tourism sector overall, and more specifically the Australian SME tourism sector.

The two facets of this incongruity reflect two distinct approaches in the SA literature. On the one hand, there is the normative conclusion that emerges from the theoretical work, supported by empirical analysis, on the innovative advantages that can be gained from "a cooperative spirit". This is a great antidote to the neoclassical economics theoretical literature on the inherent advantages of the competitive spirit emerging out of the "free market". On the other hand, there have been more recent empirical results of the inability or unwillingness of some business sectors to embrace the cooperative spirit, either due to practical limitations regarding knowledge and skill in this aspect or to institutional (cultural and regulatory) constraints that stymie any cooperative activity. At this stage of the development of the SA literature, this incongruity has not been studied or analysed to understand the theoretical and policy implications that arise.

From a practical perspective, the incongruity also reflects the need for cooperative action between firms, especially SMEs, which lack significant technology-based resources within their own organisations. However, the risk averse nature of owner-managers towards innovation, especially related to ICT,

places SME tourism at a substantial disadvantage. The survey results analysed indicate that SME tourism in Australia has entered the information technology age, but not in a forceful manner. The owner-managers are reluctant to take on risk and do not see the fundamental benefits of new technology. They are also not very tolerant towards ambiguity as they attempt to maintain control of as many issues as possible. Both these characteristics emerging from the study tend to reduce organisational effectiveness, as explained from previous studies. This means that SA in SME tourism firms involve merely defensive marketing objectives, rather than any offensive opportunities that SA would create in improved technology-based knowledge and associated technical innovations with ICT in particular.

Two policy conclusions transpire from this study, one for strategic business management and the other for public industry policy. In industries that have many SMEs, like tourism, cooperative spirit is limited to defensive marketing from managers who are both risk averse and very intolerant of ambiguity. The dual attitude or reducing risk and personal control inhibits cooperative ventures by SMEs getting together, or forming alliances with larger businesses, in order to develop innovative technology-based knowledge projects. There are many examples of successful cooperative arrangements by SMEs, most notably in cluster formations by the wine industry (see for example, McRae-Williams, Lowe & Taylor, 2005). Training and mentoring within specific industries (especially by trade associations) should concentrate on developing a strong sense of tolerance towards ambiguity, but then countering any negative fears on this level by encouraging and upskilling the ability of firms to form various types of alliances. Educational business training, from small business courses through to university MBAs, needs to place such strategic initiatives high on the skill training agenda.

At the public policy level, industry policy needs to encourage SA that have the potential to stimulate knowledge-based innovation, even if this means rewriting the regulatory codes to allow for this. Also governments need to fund embryonic cooperative activities along the lines of networking arrangements and cluster formations around nodal centres. It is not beyond the grasp of the Australian tourist industry association, together with and the Federal department addressing small business, to formulate programmes for teaching, mentoring and providing industry support that can shift slowly the dimensions of cooperation in SME tourism away from just defensive marketing and towards innovative SA that enhance technology-based knowledge and behaviour.

REFERENCES

Bierly, P. E. & Kessler, E. H. (1998). *Governance of interorganizational partnerships: A comparison of US, European and Japanese alliances in the*

pharmaceutical industry. In M. A. Hitt, J. E. Ricard & R. D. Nixon (Eds.) Managing strategically in an interconnected world pp. 187-206. Brisbane: John Wiley & Sons.

Brown, L. & Pattinson, H. (1995). Information technology and telecommunications: impacts on strategic alliance formation and management. *Management Decision*, 33(4), 41-51.

Buhalis, D. (1999). The cost and benefits of Information technology and the Internet for small and medium-sized tourism enterprises. In D. Buhalis & W. Schertler (Eds.), Information and communication Technologies in Tourism 1999*: Proceedings of the International Conference in Innsbruck, Austria* (pp. 218-227). New York: Springer Wien.

Churchill, G. A. (1979). A paradigm for developing better measures of marketing constructs. *Journal of Marketing Research (JMR)*, 16(1), 64-73.

Clarke-Hill, C. M., Robinson, T. M. & Bailey, J. (1998). Skills and competence transfers in European retail alliances: a comparison between alliances and joint ventures. *European Business Review*, 98(6), 300-310.

Coakes, S., J. & Steed, L., G. (1999). *SPSS: Analysis without anguish: versions 7.0, 7.5, 8.0 for windows*. New York: John Wiley & Sons.

Colombo, M. G. (2003). Alliance form: A test of the contractual and competence perspectives. *Strategic Management Journal*, 24(12), 1209-1229.

Contractor, F. J. & Kundu, S. K. (1998). Modal choice in a world of alliances: Analyzing organizational forms in the international hotel sector. *Journal of International Business Studies*, 29(2), 325-357.

Daniele, R. & Mistilis, N. (1999). Information technology and tourism education in Australia: An industry view of skills and qualities required in graduates. In D. Buhalis & W. Schertler (Eds.), Information and communication technologies in tourism 1999: *Proceedings of the international conference in Innsbruck, Austria* (pp. 140-149). New York: Springer Wien.

Das, T. K. (2004). Time-span and risk of partner opportunism in strategic alliances. *Journal of Managerial Psychology*, 19(8), 744-759.

Das, T. K. (2005). Deceitful behaviors of alliance partners: Potential and prevention. *Management Decision*, 43(5), 706-719.

Das, T. K. & Teng, B. (1996). Risk types and the inter-firm alliance structures. *Journal of Management Studies*, 33(6), 827-843.

Das, T. K. & Teng, B. (2001). Trust, control, and risk in strategic alliances: An integrated framework. *Organization Studies*, 22(2), 251-283.

Deng, S., Lawson, R. & Moutinho, L. (2000). Travel agents' attitudes towards automation and the delivery of service. *Asia Pacific Journal of Marketing and Logistics*, 12(4), 60-72.

Deng, S. & Ryan, C. (1992). CRS - tool or determinant of management practice of Canadian travel agents? *Journal of Travel and Tourism Marketing*, 1(1), 19-38.

Doz, Y. L. & Hamel, G. (1998). *Alliance advantage: The art of creating value through partnering*. Boston: Harvard Business School Press.

Doz, Y. L., Olk, P. M. & Ring, P. S. (2000). Formation processes of R&D consortia: Which path to take? Where does it lead? *Strategic Management Journal*, 21(3), 239-266.

Dussage, P. & Garrette, B. (1999). *Cooperative Strategy: Competing Successfully Through Strategic Alliances*. Brisbane: John Wiley & Sons, Ltd.

Edwards, C. D. (1955). *Conglomerate bigness as a source of power*. In S. G. J. (Ed.), Business concentration and price policy pp. 331-360. New York: Princeton University Press.

Engelbrecht, H. J. (1998). Business sector R&D and Australia's manufacturing trade structure. *Applied Economics*, 3(2), 177-187.

Erdly, M. & Kesterson-Townes, L. (2003). "Experience rules": A scenario for the hospitality and leisure industry circa 2010 envisions transformation. *Strategy & Leadership*, 31(3), 12-18.

Etemad, H., Wright, R. W. & Dana, L. P. (2001). Symbiotic international business networks: Collaboration between small and large firms. *Thunderbird International Business Review*, 43(4), 481-499.

Evans, G. & Peacock, M. (1999). *A comparative study of ICT and tourism and hospitality SMEs in Europe*. In D. Buhalis & W. Schertler (Eds.), Information and communication technologies in tourism 1999: *Proceedings of the international conference in Innsbruck, Austria* (pp. 248-258). New York: Springer Wien.

Evans, N. (2001). Collaborative strategy: An analysis of the changing world of international airline alliances. *Tourism Management*, 22(3), 229-243.

Faulkner, D. (1995). *International strategic alliances: Co-operating to compete.* London: McGraw-Hill Book Company.

Feltham, T. S., Feltham, G. & Barnett, J. J. (2005). The dependence of family businesses on a single decision-maker. *Journal of Small Business Management*, 43(1), 1-15.

Field, A. P. (2005). *Discovering statistics using SPSS: (and sex, drugs and rock 'n' roll)* (2nd. ed.). London: Sage.

Geringer, J. M. & Herbert, L. (1991). Measuring performance of international joint ventures. *Journal of International Business Studies*, 22(2), 249-264.

Gilmore, A., Carson, D. & O'Donnell, A. (2004). Small business owner-managers and their attitude to risk. *Marketing Intelligence & Planning*, 22(3), 349-360.

Go, F. M., Govers, R. & Heuvel, M. v. d. (1999). Towards interactive tourism: Capitalizing on virtual and physical value chains. In D. Buhalis & W. Schertler (Eds.), In Information and communication technologies in tourism 1999: *Proceedings of the international conference in Innsbruck, Austria* (pp. 11-24). New York: Springer Wien.

Golden, P. A. & Dollinger, M. (1993). Cooperative alliances and competitive strategies in small manufacturing firms. *Entrepreneurship: Theory & Practice*, 17(4), 43-53.

Gulati, R. (1998). Alliances and networks. *Strategic Management Journal*, 19(4), 293-317.

Gupta, A. K. & Govindarajan, V. (1984). Business unit strategy, managerial characteristics, and business unit effectiveness at strategy implementation. *Academy of Management Journal*, 27(1), 25-41.

Hagedoorn, J. (1993). Understanding the rationale of strategic technology partnering: Interorganizational modes of cooperation and sectoral differences. *Strategic Management Journal*, 14(5), 371-385.

Hambrick, D. C. & Mason, P. A. (1984). Upper echelons: The organization as a reflection of its top managers. *Academy of Management Review*, 9(2), 193-206.

Howarth, C. S., Gillin, M. & Bailey, J. (1995). *Strategic alliances: Resource-sharing strategies for smart companies*. Melbourne: Pitman Publishing.

Ireland, R. D., Hitt, M. A. & Vaidyanath, D. (2002). Alliance management as a source of competitive advantage. *Journal of Management*, 28(3), 413-446.

Killing, J. P. (1982). How to make a global joint venture work. *Harvard Business Review*, 60(3), 120-127.

Kotabe, M., Martin, X. & Domoto, H. (2003). Gaining from vertical partnerships: Knowledge transfer, relationship duration, and supplier performance improvement in the U.S. and Japanese automotive industries. *Strategic Management Journal*, 24(4), 293-316.

Luk, S. T. K. (1997). An examination of the role of marketing culture in service quality. *International Journal of Contemporary Hospitality Management*, 9(1), 13-29.

McRae-Williams, P., Lowe, J. & Taylor, P. (2005, July). *The role of industry and place in clustering: A regional wine and tourism study.* Paper presented at the 2nd National Conference on the Future of Australia's Country Towns, La Trobe University, Bendigo.

Michel, J. G., & Hambrick, D. C. (1992). Diversification posture and top management team characteristics. *Academy of Management Journal*, 35(1), 9-37.

Mockler, R. J. (2001). Making decisions on enterprise-wide strategic alignment in multinational alliances. *Management Decision*, 39(2), 90-98.

Morrison, A. J. (1994). Marketing strategic alliances: The small hotel firm. *International Journal of Contemporary Hospitality Management*, 6(3), 25-30.

Pansiri, J. (2005). The influence of managers' characteristics and perceptions in strategic alliance practice. *Management Decision*, 43(9), 1097-1113.

Pansiri, J. (2006). *Executive assessments of strategic alliance performance in the travel sector.* Paper presented at the Cutting Edge Research in tourism - New Directions, Challenges and Applications, UK, 6-9 June 2006, School of Management, University of Surrey.

Pansiri, J. (2006). *Harambe: Strategic alliance formation and performance evaluation in the tourism sector of travel.* Unpublished PhD (Philosophy), University of Ballarat, Ballarat (Unpublished PhD Thesis).

Pansiri, J. (2006c). *The influence of executive/managers' characteristics and perceptions on strategic alliance performance evaluation.* Paper presented at the Proceedings of the 16Th Annual CAUTHE Conference, Melbourne.

Pansiri, J. (2007). How company and managerial characteristics influence strategic alliance adoption in the travel sector. *International Journal of Tourism Research*, 9(4), 243-255.

Pansiri, J. (2008). How company and managerial characteristics influence strategic alliance adoption in the travel sector. *International Journal of Tourism Research*, 9(4), 243-255.

Parkhe, A. (1993). Strategic alliance structuring: a game theoretic and transaction cost examination of interfirm cooperation. *Academy of Management Journal*, 36(4), 794-829.

Poutziouris, P. (2003). The strategic orientation of owner-managers of small ventures: Evidence from the UK small business economy. *International Journal of Entrepreneurial Behaviour & Research*, 9(5), 185-214.

Prevot, F. & Meschi, P.-X. (2006). Evolution of an international joint venture: The case of a French-Brazilian joint venture. *Thunderbird International Business Review*, 48(3), 297-319.

Rajagopalan, N. & Datta, D. K. (1996). CEO characteristics: Does industry matter? *Academy of Management Journal*, 39(1), 197-215.

Raymond, L. (2001). Determinants of web site implementation in small businesses. *Internet Research: Electronic Networking Applications and Policy*, 11(5), 411-422.

Sakakibara, M. (2002). Formation of R&D Consortia: Industry and company effects. *Strategic Management Journal*, 23(11), 1023-1050.

Scheel, C. (2002). Knowledge clusters of technological innovation systems. *Journal of Knowledge Management* 6(4), 356-367.

Sheehan, P., Houghton, J., Rasmussen, B., Sweeny, K. & Tegart, G. (2006). *Consistent National Policies for Converging Technologies: Some*

preliminary conclusions. Melbourne: Victoria University: Centre for Strategic Studies Policy Report.

Stanek, M. B. (2004). Measuring alliance value and risk: A model approach to prioritizing alliance projects. *Management Decision*, 42(2), 182-204.

Tsang, E. W. K. (2002). Acquiring knowledge by foreign partners from international joint ventures in a transition economy: Learning-by-doing and learning myopia. *Strategic Management Journal*, 23(9), 835-854.

Tyler, B. B. & Steensma, H. K. (1998). The effects of executives' experiences and perceptions on their assessment of potential technological alliances. *Strategic Management Journal*, 19(10), 939-965.

Vasudavan, T., & Standing, C. (1999). The impact of the internet on the roles of travel consultants. *Participation and Empowerment: An International Journal*, 7(8), 213-226.

Wally, S. & Baum, J. R. (1994). Personal and structural determinants of the pace of strategic decision making. *Academy of Management Journal*, 37(4), 932-956.

Weber, E. U., Blais, A. & Betz, N. E. (2002). A domain-specific risk-attitude scale: Measuring risk perceptions and risk behaviors. *Journal of Behavioral Decision Making*, 15(4), 263-290.

Whipple, J. S. & Gentry, J. J. (2000). A network comparison of alliance motives and achievements. *Journal of Business and Industrial Marketing*, 15(5), 301-322.

Zeng, M. & Chen, X. (2003). Achieving cooperation in multiparty alliances: A social dilemma approach to partnership management. *Academy of Management Review*, 28(4), 587-605.