

An experimental approach to investigating satisfaction and continuity in marketing alliances

Prem N. Shamdasani

*Department of Marketing, National University of Singapore, Singapore
and*

Jagdish N. Sheth

Emory Business School, Atlanta, Georgia, USA

While increasing attention is being paid to why firms form strategic alliances [1-5], very little research has focused on the relational aspects, that is, the implementation and control phases of alliance relationships[6]. Environmental factors that influence the proliferation of strategic alliances are well documented and include growing domestic and global competition, shortening product life cycles, the rapid pace of technological change and convergence, and rampant protectionism[3,7-9]. Firms use alliances to acquire competence through technology transfer and/or market access[10-12], and to overcome various barriers to entry such as government restrictions[13]. In addition, there are many internal (e.g. greater asset flexibility; improved resource utilization) and relational (e.g. reduction in exchange specific uncertainty; collaborative problem solving) benefits that enhance the competitive posture of firms involved in alliances[14].

However, it has been estimated that more than half of these alliances are unsuccessful[15,16]. Dissatisfaction with the alliance relationship is one of the major reasons cited for the failure of many alliances[9,17,18]. A partner's dissatisfaction can result from outcome variables (e.g. the financial performance of the alliance) and relational variables (e.g. the degree of commitment or competence displayed by a partner to the alliance). For example, Hakanson and Lorange[19, p. 16] surveyed research and development co-operative ventures during the implementation phase and found various problems such as venture partners' lack of technical knowledge, difficulty of adapting the alliance to new commercial and technological conditions, and changes in strategies and priorities of partner firms. With the exception of a few related studies including case histories in the business literature, very little systematic empirical

research has been done to examine the relational determinants of satisfaction and continuity in strategic alliances[20,21].

Additionally, case and survey research have been the predominant methodologies employed in studies which have examined relational and structural issues in alliances (see [22]). In order to enhance the internal validity of our conclusions about relational determinants of alliance relationships, there is a need for more experimental research to complement survey and case research methodologies. The use of experimental role-playing in strategy research has both advantages and disadvantages. The primary advantages include:

- (1) the ability to investigate sensitive behavioural and strategic issues through the use of scenarios and role-playing among executives who would otherwise not have co-operated with the study; and
- (2) the ability to compress time and assess the impact of time-bound decisions.

One disadvantage of role-playing is the possibility of creating demand effects if subjects can guess the hypotheses of the study. The other is that the internal validity of the results may be compromised if subjects are unable to project their feelings realistically in response to simulated situations[23,24]. However, internal and statistical conclusion validity[25] can be enhanced through the use of a between-subject design, carefully disguised scenarios, and using experienced managers as subjects.

Towards this end, the basic purpose of this research is to demonstrate that experimental role-playing can usefully be employed to examine important strategic and behavioural issues in strategy research. We first examine the extant literature to underscore the constructs of interest in the area of strategic alliances; specifically, the key predictors of relationship satisfaction and continuity in alliances. Second, we suggest and discuss the appropriate methodology for studying these constructs and their interrelationships. Finally, we discuss the implications of the findings and the methodology for future research.

Background

Strategic alliances may be viewed broadly as "agreements among firms to work together to attain some strategic objective"[26, p. 1]. Such co-operation may take the form of equity sharing as in joint ventures and non-equity forms such as joint marketing, cross-distribution, cross-licensing agreements, joint bidding activities, and research and development partnerships. In the marketing literature, the term "symbiotic marketing" has been used with particular reference to co-operation (alliances) between firms outside the traditional vertical channel of distribution relationships[27,28].

Based on literature in strategy, marketing channels of distribution, interpersonal and interorganizational exchange relationships, three relational

predictors – competence, commitment and compatibility – which influence a partner firm's evaluation of its alliance relationship on two dimensions – satisfaction and continuity – are identified and investigated in this study. While these constructs have been examined differentially in various interorganizational contexts, published research has yet to examine empirically their causal and joint effects in the conceptual and applied realm of strategic marketing alliances.

The role of satisfaction and continuity

There are two important dimensions to evaluating alliance relationships:

- (1) how well satisfied are the parties in their relationship (i.e. satisfaction); and
- (2) are they likely to continue the relationship (i.e. continuity)?

Continuity decisions are related closely to the overall level of satisfaction or dissatisfaction with the alliance. While satisfaction reflects existing feelings about the alliance based on evaluation of outcomes and experiences received in the past, continuity decisions reflect expectations of future co-operation. In this respect, Thompson[29, p. 35] notes that "prior satisfactory performance tends to suggest satisfactory performance in the future, and we might expect the organization to prefer to maintain an ongoing relationship rather than establish a new one for the same purpose".

Alliance satisfaction

Overall satisfaction with an alliance relationship is defined as "the degree of a partner's overall affective evaluation of the alliance relationship". This definition is consistent with previous treatments of the construct in the literature on interorganizational exchange relationships (e.g. [30,31]). The importance of studying satisfaction is underscored by Hunt and Nevin[32] who note that satisfaction among channel members leads to higher morale and co-operation, and reduces the tendency to withdraw from the system, or initiate suits, or seek protective legislation. Similarly, Stem and Reve[33], adopting a political economy perspective, advocate that channel member sentiments such as satisfaction are important because they influence channel efficiency. Anderson and Narus[34] contend that examining member satisfaction should receive focal attention because it not only is a close proxy for "perceived effectiveness" of the relationship but also may be indicative of future actions by partner firms.

Alliance continuity

We define alliance continuity as "the degree of a partner firm's expectation of continued cooperation in the future". Anderson and Weitz[35] underscore the

importance of studying relationship continuity because it is a basic requirement for building long-term relationships. Such relationships have become increasingly important for post-industrial firms because they enable firms to enjoy some amount of control and co-ordination in an environment characterized by increasing vertical disaggregation, i.e. the extensive use of independent entities[36]. Indeed, perceptions of continuity have been found to be an important precursor to closer industrial purchasing relationships[37,38]. Perceptions of durability affect closeness of the relationship in interfirm ties[39].

Relationship satisfaction and continuity decisions are therefore positively related. In interorganizational relationships, satisfaction with the overall exchange relationship increases an organization's attraction and future co-operativeness in the relationship[30,32]. Dwyer[40] found a strong correlation between satisfaction and perceived co-operativeness of partners in the channel. Anderson and Narus[34] found the importance of studying satisfaction because of its consequences for long-term continuation of manufacturer-distributor working partnerships. Therefore, the following hypothesis is posited:

H1: A focal firm's intention to continue with the alliance is related positively to the level of its perceived overall satisfaction with the relationship.

Relational predictors of satisfaction and continuity

The three relational determinants of alliance satisfaction and continuity – commitment, competence and compatibility – were selected on the basis of their theoretical importance and practical significance in the current applied context (i.e. strategic marketing alliances in the personal computer industry) as determined from interviews with industry managers in the pretest phases of the research. The importance of these three relational predictors and their hypothesized relationships with satisfaction and continuity are now discussed.

Commitment of alliance partner

Commitment can be described as a pledge by alliance members to undertake certain actions that will facilitate the attainment of the alliance's strategic goals[41]. In the context of forming co-operative ventures, Murray and Siehl[13] note that a partner's commitment is manifested by the extent to which a partner is willing and able to commit resources to overcome barriers to entry. A committed partner is more likely to expend the time and resources needed to achieve the goals of the alliance and, therefore, display the desire and intent to maintain the alliance[42,43]. The implicit or explicit pledge of relational continuity between alliance partners demonstrates commitment[39], and implies that partners give high priority to achieving the goals of the alliance[44].

In this research, commitment of an alliance partner is defined operationally in terms of “the extent to which the partner is willing to provide quality and timely technical support to customers”. A high level of commitment reduces perceived behavioural uncertainty associated with the alliance and reduces the probability of opportunistic behaviour. Commitment to the relationship enables partners to predict and, therefore, monitor each other’s deviance from the goals of the alliance, leaving resources free to be channelled into improving alliance effectiveness and efficiency[29,45]. Fluctuations in alliance members’ inputs or contributions will therefore have a negative impact on alliance satisfaction and continuity. Thus, the following hypothesis is posited:

H2: The degree of commitment displayed by the alliance partner influences positively a focal firm’s (1) satisfaction with the alliance, and (2) willingness to continue with the alliance.

Competence of alliance partner

In this research, competence is viewed conceptually as one dimension of trust in an alliance relationship. Trust has been defined as one party’s confidence in an exchange partner’s reliability and integrity, and an important quality which influences this confidence is the competence of the exchange partner[46]. Therefore, the realization of similar and distinctive competences, and the perceived synergies from collaboration, is a major motivation to form and maintain strategic alliances[2,47,48]. Competence, in general, has been referred to as the ability or fitness to perform[49]. A firm’s distinctive competence represents those activities which it does better relative to its competitors[50,51]. A firm’s core competences represent the “collective learning in the organization, especially how to coordinate diverse skills and integrate multiple streams of technologies”[52, p. 82]. In the context of alliances, the issue of competence concerns how complementary competences between firms can be co-ordinated effectively to maximize the partnership’s competitive advantages[10].

Generally, distinctive competences can be found in a partner’s value chain. The value chain “disaggregates a firm into its strategically relevant activities in order to understand the behaviour of costs and the existing and potential sources of differentiation”[53, p. 33]. Upstream competences include research and development, purchasing/sourcing, human resources and financial resources. Downstream competences include production, marketing and distribution expertise and facilities. In a strategic marketing alliance, competence is therefore the marketing knowledge and skills that a partner brings to the alliance relationship with the objective of enhancing the competitive position of the alliance. In this study, competence of an alliance partner is defined operationally as “the extent to which the partner possesses the necessary knowledge and skills to market jointly the alliance’s products”. Therefore, the following hypothesis is posited:

H3: The degree of competence displayed by the alliance partner positively influences a focal firm's (1) satisfaction with the alliance, and (2) willingness to continue with the alliance.

Marketing
alliances

Compatibility of alliance partner

Compatibility is a crucial element which affects the extent to which orientations, abilities and activities of organizations can be integrated successfully[54]. Additionally, the complementarity of resource needs is a powerful force for co-ordinating efforts among alliance members[55]. In an interorganizational context, the degree of compatibility among parent or partner firms has been found to be an important predictor of the success or failure of joint ventures[13]. Harrigan[56] distinguishes three kinds of compatibility in the context of joint venture relationships: strategic, cultural and functional. This research focuses on only strategic compatibility which we define operationally as "the extent to which an alliance partner has complementary goals and shares similar orientations that facilitate co-ordination of alliance activities and execution of alliance strategies".

Strategic compatibility is one of the important factors which motivate firms to form and maintain alliances. Potential strategic partners are attracted to form alliances when they become aware of each other's strengths and needs and find them to be complementary and similar[39,47]. These corporate needs include strategies to develop jointly technologies, products or markets, and to defend market share or consolidate one's competitive position. The mutual realization and agreement among alliance partners as to which strategies are required to create and sustain competitive advantages are crucial to the continued success of the alliance. Anderson and Narus[34] argue that compatible partners working together in pursuit of mutually agreed strategic goals develop a strong feeling of "chemistry" that results in satisfaction with the alliance.

Strategic compatibility may be threatened by anticipated and unanticipated changes in the market, competitive or technological environments. These changes could result in a lack of agreement or convergence between partners' perceptions of the appropriate strategic actions to take in response to these environmental changes[18]. Therefore, the following hypothesis is proposed:

H4: The degree of compatibility displayed by the alliance partner influences positively a focal firm's (1) satisfaction with the alliance, and (2) willingness to continue with the alliance.

Methodology

An experiment involving executive role-playing was conducted to examine the research hypotheses. Subjects had to evaluate a hypothetical two-year-old marketing alliance by providing satisfaction and continuity judgements with

respect to three aspects of the alliance relationship (i.e. commitment, competence and compatibility). The alliance evaluated is between a manufacturer of personal computers and printers (H Co.) and a software company specializing in desktop publishing (S Co.). The objective of the alliance was to market and service jointly a complete package consisting of personal computer hardware and desktop publishing software (see Appendix 1).

Subjects

A total of 221 managers (75 per cent males and 25 per cent females) took part in this study. These managers were recruited from the executive development programmes of three major universities in Southern California. Participation was voluntary and subjects were not compensated. The demographic profile of the sample is reported in Appendix 2. The managers came from a cross-section of industries and had an average of 13 years of working experience. Information about subjects' experiences with alliances was also obtained for control and comparison purposes. About 64 per cent of them represented firms which had one or more alliances. Of these, about 40 per cent were involved directly with their respective firms' alliances, with an average involvement time of 2.85 years. About 84 per cent of the subjects indicated that they were familiar with the personal computer industry.

Analysis of covariance was performed on these background variables to evaluate confounding influences. Familiarity of participants with the personal computer industry (i.e. the focal industry) was not a significant covariate in influencing their evaluation of alliance satisfaction ($F = 0.22$; $p > 0.10$) and alliance continuity ($F = 0.65$; $p > 0.10$). Similarly, no significant confounding influences (i.e. $p > 0.10$) were observed for subjects' amount of working experience (satisfaction: $F = 0.04$; continuity: $F = 0.11$) and prior personal involvement with alliances (satisfaction: $F = 1.1$; continuity: $F = 0.49$). In summary, participants' industry familiarity, working experience and prior involvement with alliances had no significant influence on their evaluation of the hypothetical marketing alliance.

Design and procedure

A 2 (high or low commitment) \times 2 (high or low competence) \times 2 (high or low compatibility) design was used. Data for the study were collected over six sessions. During each session, between 40 to 50 subjects were assigned randomly to each of the eight cells. Prior to reading the questionnaire, subjects were reminded verbally to assume the role of chief executive officer (CEO) of H Co. when evaluating the hypothetical marketing alliance with S Co. They were then informed briefly about the layout of the instrument.

Each subject had to read some background information about the personal computer industry and a brief history of the two-year-old marketing alliance between a PC manufacturer (H Co.) and a software firm (S Co.) which included

reasons why the alliance was formed. The background information about the alliance was also presented in a summary form (see Appendix 1) at the end of the section to ensure that subjects had been anchored sufficiently in the material and to motivate subject involvement. Following this, subjects' initial expectations about the continuity of the alliance were measured. This was followed by a randomized presentation of three scenarios reflecting different levels of performance of their partner firm (S Co.) on three aspects of the relationship – commitment, competence and compatibility. Randomization of the three scenarios within each condition was deemed necessary to remove ordering bias. Subjects were instructed to consider each of the three treatment scenarios independently. Overall measures of satisfaction and continuity were obtained after the three scenarios had been evaluated independently. Manipulation check questions followed. Finally, some background information about the subjects was requested, including subjects' familiarity and experiences with alliances.

Stimulus materials

Preparation and pretesting of the stimulus materials for the final experiment involved an iterative process of developing, testing and modifying three components of the research instrument:

- (1) the descriptive background information about the personal computer industry;
- (2) the descriptive background information about the hypothetical two-year-old marketing alliance; and
- (3) the treatment scenarios (i.e. the manipulations of the predictor variables).

The stimulus materials were developed from two sources. The primary source was interviews with executives from the personal computer (PC) industry who were involved with strategic alliances. Secondary sources included articles found in trade journals (e.g. *PC Magazine*), business magazines (e.g. *Business Week*), and newspapers (e.g. *The Wall Street Journal*) which provided case descriptions as well as trends and projections for the PC industry.

Treatment scenarios

The independent constructs were manipulated using scenarios which described high and low levels of S Co.'s "performance" on each variable. Commitment was manipulated by providing scenarios that showed varying degrees of S Co.'s willingness to provide quality and timely technical support. An example of the high commitment displayed by S Co. is illustrated in the following scenario:

S Co. has reacted very quickly to feedback given by H Co.'s dealers regarding complaints from customers about the slow technical support provided by S Co.'s representatives. H Co.'s dealers have continued to receive calls from happy customers about the extremely high level of

enthusiasm shown by S Co.'s technical support staff in explaining both the workings of the software, and how to maximize the graphic capabilities of H Co.'s printers.

S Co.'s competence was manipulated by varying the degree of its representatives' knowledge about marketing the complete hardware and software package. An example of the low competence displayed by S Co. is illustrated in the following scenario:

In accordance with the marketing agreement, S Co.'s sales representatives assist in the product demonstrations at H Co.'s authorized dealerships. They exhibit a very poor understanding of H Co.'s PC and printer equipment, and very little knowledge in the application of desktop publishing software.

Compatibility was manipulated by varying the degree of compatibility of S Co.'s decision on price and technical support strategies in response to competitive pressures. An example of the low compatibility displayed by S Co. is illustrated in the following scenario:

S Co. has decided to cut the prices of its desktop publishing software due to stiff competition. H Co. wants to provide a high level of technical support for its products. By cutting prices, S Co. cannot continue to provide a high level of technical support for its desktop publishing software. H Co. disagrees strongly with this decision because it is inconsistent with the high-quality image of H Co.'s PCs and especially its printers - which are targeted at the high-end of the PC market.

Face and content validities of the treatment scenarios were assessed using a panel of independent judges during the pretest phases of the research. Responses of these judges comprising managers, business academics and business graduate students were used to develop percentage of agreement scores for each scenario. Only scenarios with agreement scores exceeding 90 per cent were retained and refined to capture better the level of the predictor variables and improve their content validity prior to manipulation checks. Pretest results supported the efficacy of the scenarios in manipulating the magnitude and direction of the three relational predictors.

Dependent measures

Single-item measures of the two dependent variables were employed in this study. Satisfaction was measured by asking subjects to indicate the extent of their overall satisfaction/dissatisfaction on a seven-point "very dissatisfied/very satisfied" scale after evaluating the treatment scenarios. Similarly, continuity was measured by asking subjects to indicate their likelihood of continuing with the alliance on a seven-point "very unlikely/very likely" scale.

Analysis and results

Analysis of stimulus materials and experimental procedures

To ensure that there was consistency in the initial expectations about the alliance prior to the manipulations, subjects were asked to indicate on a seven-point scale their expectations of continuity after reading the background

information about the focal industry and the strategic alliance. No differences in initial expectations ($F = 0.60$; $p > 0.10$) across the eight experimental conditions were observed.

Results also indicated that subjects were able to discriminate significantly between the high and low manipulations of the three treatment scenarios:

- Commitment (Mean_{high} = 4.80; Mean_{low} = 3.28; $F = 52.83$; $p < 0.01$);
- Competence (Mean_{high} = 4.41; Mean_{low} = 3.24; $F = 27.95$; $p < 0.01$); and
- Compatibility (Mean_{high} = 4.33; Mean_{low} = 3.78; $F = 4.63$; $p < 0.05$).

Additionally, ANOVA was used to assess the effects of bias caused by the order of presentation of the treatment scenarios. Order was not a significant covariate in subjects' evaluation of the alliance with respect to satisfaction ($F = 2.61$; $p > 0.10$) and continuity ($F = 1.38$; $p > 0.10$).

Substantive findings

Analyses of variance and covariance were used to investigate the hypotheses. In general, all the hypothesized relationships between the relational predictors and alliance satisfaction and continuity were supported. None of the second-order and third-order interactions among the predictor variables was found to be significant. Table I reports the overall mean scores of the dependent constructs by treatment condition.

The theoretical efficacy of the relational predictors is supported by the ANOVA results which indicate that commitment, compatibility and competence explained 49 per cent of the variance in alliance satisfaction and 41 per cent of

Commitment	Competence	Compatibility	<i>N</i>	Satisfaction ^a	Continuity ^b
High	High	High	29	5.93(0.84)	6.14(0.83)
High	High	Low	27	4.89(1.34)	4.85(1.26)
High	Low	High	30	4.90(0.96)	4.90(1.35)
High	Low	Low	26	3.65(1.44)	3.96(1.51)
Low	High	High	27	4.52(1.01)	4.74(1.26)
Low	High	Low	26	3.15(1.41)	3.46(1.65)
Low	Low	High	28	3.36(1.13)	3.14(1.33)
Low	Low	Low	28	2.21(1.07)	2.54(1.32)

Notes:

^a Measured on a seven-point scale with higher scores reflecting greater satisfaction with the alliance. Standard deviations in parentheses.

^b Measured on a seven-point scale with higher scores reflecting greater intention to continue with the alliance. Standard deviations in parentheses.

Table I.
Means of alliance satisfaction and continuity by treatment conditions

the variance in alliance continuity. The correlation between satisfaction and continuity was found to be high ($r = 0.86$), indicating that satisfaction is positively related to continuity (*Hypothesis 1*). Both satisfaction and continuity are important in the evaluation of ongoing alliances since satisfaction represents existing feelings about the relationship while continuity decisions reflect future expectations of continued co-operation.

Although only suggestive, the higher overall R -square for satisfaction (49 per cent) relative to that of continuity (41 per cent) may imply a causal precedence of satisfaction over continuity. This may be interpreted to mean that satisfaction with the alliance, as determined by the relational predictors, may actually moderate continuity decisions about the alliance. There is some theoretical support for this contention in the interorganizational exchange literature [29,34].

The ANOVA results for the dependent constructs are reported in Table II. The results support all the three hypotheses. The effect size of the predictor variables as indicated by omega-squared (ω^2) was used to gauge the relative importance and contribution of predictor variables. In the analyses of the relative importance of the predictor variables, commitment of the partner was found to be the strongest determinant of both relationship satisfaction and

Source	Df	SS	F	P	ω^2
<i>Alliance satisfaction</i>					
Model	7	278.07	39.72	0.00	
Error	213	289.74	1.36		
Corrected total	220	567.81			
					<i>R-square = 0.49</i>
Commitment (Commit)	1	133.16	97.89	0.00	0.24
Competence (Compet)	1	76.61	56.32	0.00	0.14
Compatibility (Compat)	1	67.39	49.54	0.00	0.12
Commit \times Compet	1	0.29	0.21	0.64	-
Compet \times Compat	1	0.02	0.01	0.92	-
Commit \times Compat	1	0.18	0.13	0.70	-
Commit \times Compet \times Compat	1	0.43	0.31	0.57	-
<i>Alliance continuity</i>					
Model	7	263.74	37.68	0.00	
Error	213	378.03	1.77		
Corrected total	220	641.76			
					<i>R-square = 0.41</i>
Commitment (Commit)	1	125.99	70.99	0.00	0.20
Competence (Compet)	1	56.05	31.58	0.00	0.09
Compatibility (Compat)	1	76.93	43.34	0.00	0.13
Commit \times Compet	1	0.28	0.16	0.69	-
Compet \times Compat	1	3.87	2.18	0.14	-
Commit \times Compat	1	0.39	0.22	0.64	-
Commit \times Compet \times Compat	1	0.23	0.13	0.72	-

Table II.
ANOVA decomposition:
dependent constructs
of: alliance satisfaction
and alliance continuity

continuity, accounting for about half of the explained variance in both of these constructs. Commitment influences strongly both existing (i.e. satisfaction) and future (i.e. continuity) evaluation of the alliance relationship.

Relatively strong main effects were also observed for competence and compatibility. A partner's competence was found to be a stronger predictor of satisfaction than compatibility, while the converse was true for alliance continuity. Although only suggestive, this finding may be explained in the light of the temporal orientation of the dependent constructs. Satisfaction is influenced by outcomes received in the past (i.e. the level of competence displayed by the partner) while continuity is influenced by expectations of future co-operation (i.e. the degree of strategic compatibility between the partners).

Discussion

Overall, the findings of this study are consistent with past research which has examined one or more of these constructs in other interorganizational contexts such as joint ventures and collaborative R&D ventures[22,56]. However, this research represents a first attempt to evaluate systematically the joint effects of these causal dimensions in a relatively challenging interorganizational context of marketing alliances.

The results confirm the importance of commitment, competence and compatibility in ongoing strategic alliances since they strongly influence alliance satisfaction and continuity. Satisfaction is positively related to continuity since a satisfied firm is more likely to maintain its ongoing relationship than seek out a new alliance partner. Continuity indicates that partner firms expect to continue to work together closely to achieve their mutual strategic goals through the alliance. A partner demonstrating a high degree of commitment to the alliance reduces behavioural uncertainty in the relationship, thereby increasing satisfaction and encouraging continued co-operation. Similarly, displaying a high level of competence and ensuring its proper application for the purpose of enhancing the competitive advantage of the alliance increases relationship satisfaction and longevity. Additionally, since competence was defined operationally as one dimension of trust, a strong demonstration of competence in the alliance is indicative of more trust in the relationship which in turn promotes relationship satisfaction and continuity. A high degree of strategic compatibility demonstrated by a partner facilitates the development and execution of strategies for coping with changes in the business environment (e.g. consumer markets, technology and competition). This in turn increases partner satisfaction with the alliance and promotes future co-operation.

Methodologically, this study has demonstrated that experiments can be employed usefully to examine strategic and behavioural issues in interorganizational research. More importantly, the internal validity of our findings and conclusions can be enhanced through experimental research.

Interviews with managers from the personal computer industry during the exploratory phases of the research favoured the use of experimental methodology involving role playing owing to the sensitive nature of the topic, the need to compress time, and to enable otherwise expensive or difficult manipulations to be operationalized reasonably. Threats to the internal validity of the results were minimized by using a between-subject design, carefully disguising the manipulations, and using experienced managers as subjects.

Future research directions

The findings and implications drawn from this research should be viewed in the light of the research method employed and the nature of the strategic alliance investigated. The use of experimental role-playing and our focus on one particular type of alliance in a specific industry limit generalizability to other types of alliances. Future research may examine other types of strategic alliances in different industries using extensions of the role-playing approach.

In this research, we examined only three relational predictors of satisfaction and continuity in strategic alliance relationships. Future research could incorporate additional variables such as a partner firm's attributions (i.e. cause-and-effect relationships) about changes in the relational predictors. This will enhance our understanding of the resultant feelings experienced and decisions undertaken by alliance members. Attribution theory[57] suggests that the type of attributions made regarding the *locus*, stability and control of causes has been shown to influence both affective and behavioural responses.

Modifications to the current experimental design can incorporate new theoretical predictions about interactions among relational predictors and the dependent constructs. This would help throw some light on the decision-making process involved in evaluating alliances, including the trade-offs made by alliance partners based on criteria used for evaluating various relationship outcomes. In this regard, the experimental approach can be used to provide support for the proposed theoretical relationships (i.e. internal validity) which can then be validated externally by other methodologies such as survey and case research. For example, the relationship between trust and commitment can be manipulated experimentally, and then validated externally in a field context using the survey method[46].

This study employed a monadic approach, that is, evaluation of the alliance was examined from the view point of the focal firm (i.e. the PC manufacturer). Adopting a dyadic approach in an experimental role-playing setting is another area for future research. Dyadic approaches have been employed successfully to examine interfirm relationships[37,58] in field studies.

Another useful and important extension of this research would be to examine how cross-cultural differences in relationship expectations and perceptions of executives influence satisfaction with and continuity of their cross-national alliances (e.g. between US and Japanese firms, and between US and European firms). Cross-national alliances have proliferated in the last few years as

companies have to deal with increasingly global markets for a variety of products[8]. Although many firms believe that forming alliances is the cheapest, fastest, and sometimes less risky way to get into the global scene, there are many firms which find it very difficult to deal with foreign partners and manage successfully their cross-national alliances[21]. Extending this research to a cross-cultural setting will enable us to understand how executives perceive and manage alliance relationships with their culturally different partners.

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Appendix 1: Summary information on the alliance between H Co. and S Co.

	H Co.	S Co.
Expertise	PC hardware	PC software
Products	Desktop PCs Printers	Desktop publishing
Competitive advantages	Laser printers: (1) speed (2) quality prints (3) more on-board memory	Desktop software: (1) very user-friendly (2) excellent graphic capabilities
Market share	PCs (5 per cent) Laser printers (11 per cent)	Desktop publishing (7 per cent)
Motivation for forming the alliance	Increase sales of PCs and printers by selling the desktop publishing software as part of the total package	Increase market penetration of desktop publishing through H Co.'s existing strong dealership network
	Enhance market ability of printers with S Co.'s graphic capability	Enhance market ability of software with H Co.'s laser printer technology
Alliance agreement	Joint marketing of hardware and software at authorized dealerships	Provide expert sales staff for joint marketing and technical support at authorized dealerships
	Receive 26 per cent of software sales revenues	

Appendix 2: Demographic profile of participating executives (sample size = 221)

Marketing
alliances

	Percentage
<i>Age</i> (mean = 35.0; SD = 6.64)	
Under 30 years	23.0
30-39 years	50.6
40-49 years	23.4
Above 50 years	3.0
<i>Sex</i>	
Males	75.0
Females	25.0
<i>Total working experience</i> (mean = 13.1; SD = 6.94)	
Under 10 years	32.5
10-19 years	45.8
20-29 years	18.4
Above 30 years	3.3
<i>Size of firms</i> (sales/billings)	
Under \$50 million	22.5
\$51-\$100million	11.3
\$101-\$200 million	4.3
Above \$200 million	61.9
<i>Industry affiliation</i>	
Aerospace	17.8
Health care	13.2
Computer (hardware/software)	12.5
Telecommunications	10.0
Banking	8.3
Consumer and industrial electronics	6.2
Government/defence	5.8
Food and beverage	3.0
Petroleum	2.9
Real estate	2.5
Entertainment	2.1
Heavy industrial equipment	2.1
Education	1.7
Automobile	1.3
Others	10.6