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**CHARACTERISTICS OF SUCCESSFUL
UK INTERNATIONAL STRATEGIC
ALLIANCES**

Behavioural and Organizational Factors

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University of Warwick

**A thesis submitted in fulfilment of the requirements for the degree of Doctor
of Philosophy**

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LIST OF ABBREVIATIONS USED

FT M & A	Financial Times Mergers and Acquisitions
EFA	Exploratory Factor Analysis
CFA	Confirmatory Factor Analysis
KMO	Kaiser-Meyer-Olkin Measure
MDA	Multiple Discriminant Analysis
MSA	Measure of Sampling Adequacy

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Finally, I would like to thank my mother for her prayers.

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DECLARATION

The following papers have been presented and included in the Conference Proceedings

1. "Characteristics of Successful UK International Strategic Alliances"
Academy of Marketing / The Manchester Metropolitan University 1997.
Joint paper presented with Dr. Vivienne Shaw.
2. "The International Strategic Alliance Activity of British Firms".
Academy of International Business (UK) (AIB)
City University Business School, 1998.
Joint paper presented with Dr. Vivienne Shaw
3. The Characteristics of Successful Strategic Alliances: Lessons from the UK
Australia and New Zealand Marketing Academy
University of Auckland, 1998
Joint paper presented with Dr, Vivienne Shaw
4. The changing patterns of International Strategic Alliance activity by British Firms (1998). This paper has been submitted to the *Journal of Management Studies* and is currently under review.
Dr, Vivienne Shaw and Saleema Kauser

ABSTRACT

With the current trend toward globalization and the increasing competitive and technological challenges of today's environment the formation of international strategic alliances between firms have become an important part of many firm's strategies and have grown in importance as a mode of international business operations. However, experience with international strategic alliances has shown that they face a number of problems which can often result in the termination of the alliance. For this purpose it is important to address the factors that are impacting the success of international strategic alliances. Behavioural and organizational characteristics of interorganizational relationships have been identified as being important to the successful management of the international strategic alliance. However, a clear understanding of their impact on performance in the academic literature is deficient.

The purpose of this study was, therefore, to address the behavioural and organizational characteristics of international strategic alliance success. The specific objectives of this study are (i) to provide an empirical analysis of UK strategic alliance activity with firms from Western Europe, the USA and Japan (ii) to determine the successful characteristics of strategic alliances between UK firms and their international partners and (iii) to assess the influence of behavioural and organizational characteristics on the success of UK international strategic alliances.

Data was collected using both primary and secondary sources. The creation of a database of UK international strategic alliances through secondary sources was the first stage of the research. This allowed the identification of a number of international strategic alliances used in the second stage of the research, which involved the collection of data through a mail survey. The data was analysed using factor analysis, descriptive statistics, t-tests, multiple discriminant analysis and multiple regression.

The results of the study have shown that while both behavioural and organizational characteristics are important to UK international strategic alliances, behavioural characteristics distinguish successful UK international strategic alliances from less successful international alliances. Successful UK international strategic alliances are characterized by higher levels of commitment, trust, coordination, interdependence and communication and lower levels of conflict. Performance of UK international strategic alliances was also found to be positively related to commitment, trust, coordination, interdependence and communication. Relatively few differences were found between successful and less successful alliances in terms of structure and control. Furthermore, very few relations were found between performance and structure and control characteristics.

CHAPTER ONE

INTRODUCTION

1.1 INTRODUCTION TO THE STUDY

Over the last two decades the world economy has been dramatically transformed. The business environment is characterised by increasing complexity, uncertainty and discontinuity (Grant 1991) and unprecedented levels of diversity, knowledge richness and turbulence (Achrol 1991). Changing market conditions, intensified global competition and increasingly shorter product life cycles mean that firms are having to re-examine the traditional methods and strategies for doing business (Ohmae 1989; Bartlett and Ghoshal 1987). Managers are realising that, no matter how strong and resourceful their firms might be, they are no longer able to maintain a competitive advantage at every step in the value chain in all national markets, nor are they able to maintain a cutting edge in the wide range of technologies required for the design, development, manufacture and marketing of new products. Thus international strategic alliances have become an important means to rationalise operations to overcome potential difficulties and to help firms regain and maintain their competitive position in international markets (Ohmae 1989).

1.2 THE RESEARCH PROBLEM

The formation of strategic alliances have become an increasingly important part of many organization's strategies and have grown in importance as a means of doing business across national boundaries. As a result they have received much attention both in the media and in academic circles (Hergert and Morris 1988; Harrigan 1985, 1986, 1988; Buckley and Casson 1988; Kogut 1988; Perlmutter and Heenan 1986; Borys and Jemison 1989; Anderson 1990; Bucklin and Sengupta 1993; Hamel 1991; Glaister and Buckley 1994). For many firms, international strategic alliances have become an institutionalised phenomenon strongly influencing organisational structures and behaviours (Parkhe 1991). Some firms perceive international alliances as strategic weapons (Harrigan 1987; Kogut 1988; Jarillo 1989) while others consider them to be a superior method of investing corporate resources (Christlow 1987; Das et al 1998). Several studies have shown that the number of alliances being used by firms is increasing. Hergert and Morris (1988) found a steady increase in the number of strategic alliances between 1979 and 1985. According to Anderson (1990) more international strategic alliances were started between 1981 and 1990 than in all previous years put together. Glaister and Buckley (1994) also reported an accelerating trend in international strategic alliances between 1980 and 1989. Thus there can be no doubt that international strategic alliance activity is crucially important, both empirically and theoretically (Buckley 1994). There is a need to understand the nature of alliance activity, not least because such an activity has a profound effect on the practising manager. Furthermore, while there is a growing volume of literature on international strategic alliances, there is a lack of empirical

evidence on the incidence of UK-foreign strategic alliances. This study, therefore, seeks to explain a phenomena, which is academically important and has relevance to current managers especially in UK multinational firms involved in strategic alliances with developed economies.

Despite the popularity of strategic alliances, there appears to be a high failure rate. It has been estimated that between 30% and 70% of alliances fail (Bleeke and Ernst 1991; Harrigan 1988; Killing 1982; Kogut 1988). Experience with international strategic alliances shows that there are potentially many problems associated with their management because of the a number of problems they face such as conflict, poor perceived performance and inflexibility (Parkhe 1993; Geringer and Herbert 1991). Glaister and Wu (1994) in their study of UK joint ventures in China pointed out that differences in the economic systems and management systems impacted the management of the joint ventures. Cultural differences between the two countries made the actual management more difficult. These factors would appear to adversely affect the successful implementation of the joint ventures. The fact that international strategic alliances are a significant firm strategy and many alliances are not successful suggests an inadequate theoretical and practical understanding of this complex phenomenon. It is, therefore, important to understand what characterises successful and less successful strategic alliances in order that managers, in the future, can develop more effective international partnerships. This study focuses on the characteristics of international strategic alliances with specific reference to UK multinational enterprises.

Much research has been and is still being conducted into international strategic alliances. The focus of much of that research has been on the motives behind the formation of alliances, partner selection and the characteristics of the resulting co-operative working relationships (Contractor and Lorange 1988; Hennart 1988; Bleeke and Ernst 1991; Kogut 1988; Harrigan 1988; Ohmae 1989; Blodgett 1991; Geringer 1991; Hagedoorn 1993; Parkhe 1993; Glaster and Buckley 1996). Meanwhile studies considering the factors associated with success are still limited (Anderson 1990; Parkhe 1993). Where research has considered the factors influencing success or failure most research has focused on the control-performance relationship and less on the behavioural and structural aspects (Killing 1983; Kogut 1988; Beamish 1985). This research has, however, still tended to concentrate on the problems associated with trying to run a strategic alliance rather than providing directions for the effective management of successful international strategic alliances.

There is a growing volume of literature on strategic alliances that strongly supports the notion that alliance performance can be understood more fully by the examination of behavioural characteristics (Parkhe 1993; Mohr and Spekman 1994; Aulakh et al 1996; Monckza et al 1998; Saxton 1997). Researchers have focused on behavioural characteristics emphasising the relationship attributes between the partners as an explanation for alliance success. Research in the USA has identified a number of these factors that appear to have an impact on the success of strategic alliances. These include shared ownership and management, good relationships between partners, good organisational arrangements, and a willingness to learn (Lane and Beamish 1990; Bucklin and Sengupta 1993; Mohr

and Spekman 1994; Olson and Singsuwan 1997; Monckza et al 1998; Anderson and Narus 1990). These studies have, however, focused on alliances between US firms concentrating on co-marketing and supplier-dealer type relationships. These fundamental issues have not been addressed in any empirical study at a cross national level except for Olson and Singsuwan (1997) who measured the perceptions of Thai and American executives as to the importance of behavioural characteristics on the success of strategic alliances. Even still, Olson and Singsuwan's (1997) sample did not constitute international alliances since both samples were collected from the individual countries. That is, the American and Thai firms were not in alliance relationships with each other. Second, there has been a lack of empirical attention to the impact of behavioural characteristics on alliance success. Many of the research studies except those of Mohr and Spekman (1994), Monckza et al (1998) and Olson and Singsuwan (1997) have not considered all the behavioural characteristics such as partnership attributes (coordination, interdependence, trust and commitment), communication attributes and conflict and their effect on the performance and satisfaction of international alliances. By contrast, in spite of the number and strategic importance of alliances in the UK, little is known about the success of UK international alliances and the characteristics of those alliances which do appear to work (Glaister and Buckley 1994; Glaister and Buckley 1999). Whilst Glaister and Wu (1994) have undertaken a survey of strategic alliances between UK and Chinese firms and have explored the impact of behavioural, cultural and administrative factors on the management of those alliances only 21 relationships were explored. Furthermore, their study was limited largely to explaining general issues of management control and perceptions of performance. More recently Glaister and Buckley (1999)

considered the relationship between a set of alliance characteristics and performance for UK international alliances in the US, Japan and Western Europe. These alliance characteristics included for instance cultural distance, previous relationships, depth of analysis conducted prior to alliance formation, the propensity for competition and partner behaviour and alliance integration. There appears, therefore, to be no empirical studies reported in the literature that specifically examine the behavioural characteristics of successful UK alliances with partners from developed countries.

Many researchers have emphasized the issue of international strategic alliance control as a crucial organization process for alliance success (see Geringer and Herbert 1989 for a review). Much research has been conducted on control through ownership and through bargaining power (Killing 1983; Root 1988; Blodgett 1991; Mjoen and Tallman 1997) that has tended to emphasize the control-conflict relationship (Parkhe 1993). However the majority of research on strategic alliance control has had a limited perspective of the control concept (Geringer and Herbert 1989). There is very little conceptual and empirical research available concerning control as a determinant of alliance success especially in developed countries (Geringer and Herbert 1989). Apart from the study by Glaister (1995) on the dimensions of control in UK international joint ventures, no other studies have been reported. Their study however did not consider the relationship between control and performance. Researchers have also emphasised the structural characteristics and performance of strategic alliances (Parkhe 1993). Surprisingly little systematic empirical research has been done to examine the structural determinants of alliance success. Given the lack of

empirical evidence on the assessment of the control and structural determinants of international strategic alliances an understanding of the relationship between control and alliance success and structure and alliance success represents a useful contribution to the existing literature on international strategic alliances.

While the behavioural, structural and control characteristics of strategic alliances identified above have been examined in various interorganizational contexts, there is no published research that has empirically examined their joint effects on the success of international strategic alliances. Furthermore, this has not been done within the context of UK international alliances. These gaps are addressed in this study through a method that employs quantitative data collection, representing a wide range of strategic alliances within a wide range of industries. This study incorporates both behavioural and organizational (structure and control) characteristics of international strategic alliances to develop a more complete understanding of the factors that may impact the success of alliances.

1.3 OBJECTIVES OF THE RESEARCH

The previous section has suggested that there is a significant need to understand the successful management of international strategic alliances. This study investigates and provides evidence on the management of international strategic alliances formed between UK firms and partner firms from the USA, Japan and Western Europe. The specific objectives of this study are:

- (i) To provide an empirical analysis of UK international strategic alliance activity with partner firms from Western Europe, the USA and Japan
- (ii) To determine the successful characteristics of strategic alliances between UK firms and their international partners
- (iii) To assess the influence of behavioural and organizational characteristics on the success of UK international strategic alliances

1.4 RESEARCH METHODOLOGY

To achieve the objectives of this study it was necessary to employ two research methods to collect the data needed to undertake the empirical analysis. The first involved the building of a database of UK international strategic alliance formation. The creation of the database, from secondary sources, allowed data to be presented on several dimensions of activity: trends in UK international alliances between 1988 to 1995, industry characteristics, geographic distribution, alliance motive, number of partners and alliance type. A total of 778 UK international alliances were recorded. The database provided a sampling frame for the second phase of data collection, a mail survey to obtain primary data on the behavioural and organizational and performance characteristics of UK international strategic alliance firms. Data for this part of the study was collected in two stages. During the first stage, telephone calls were made to firms, asking them to provide the names and addresses of senior personnel who were directly involved in the international alliances in question. This process resulted in the identification of 450 potential informants. In the second stage, a questionnaire

was mailed to the 450 senior personnel identified. Finally, data obtained from the questionnaire was analysed using the SPSS statistical analysis software.

1.5 ORGANIZATION OF THE THESIS

Following on from the introduction, chapter two comprises the literature review pertaining to the research problem. The first part of the chapter discusses existing perspectives of international strategic alliances; namely transaction cost theory, strategic behaviour theory, resource dependency and organizational learning theory. The second part of the chapter reviews the literature concerned with the assessment of success in international strategic alliances. Following this, there is a review of the theoretical and empirical studies of prior research on the behavioural and organizational characteristics of international strategic alliance that are relevant to the research objectives of the study. Based on this review of the literature a number of research propositions are developed.

Chapter three presents the first part of the findings of this study. These findings are based on the development of the database from secondary sources of UK international strategic alliances. The chapter outlines the international strategic alliance activity of UK firms for the period 1988 to 1995. The analysis provides data on the number of alliances formed, the types of alliances, partner nationality, industry sector of UK firms and the motivations of the alliances.

Chapter four presents the methodology of the study. This chapter reviews the research problems and its objectives and the research design. It also discusses the approaches adopted for survey research and the analysis of the results.

Chapter five presents the results for the reliability and validity of the concepts used in the study.

Chapter six presents the results of the study. In the first section the principal characteristics of the study's sample are discussed. General descriptive statistics are provided for data collected regarding the sample of international strategic alliances. The second part presents the research findings on the characteristics of successful and less successful alliances. The propositions are tested regarding the relationships linking the behavioural and organizational characteristics with success and the results obtained are discussed.

Chapter seven provides a review of the study and a summary of the major findings of the study. The research implications for managers are discussed, as well as the contribution of the study to the existing literature on international strategic alliances. Finally the limitations of the work are considered and suggestions for future research are offered.

CHAPTER TWO

LITERATURE REVIEW

2.1 INTRODUCTION

Research has devoted very little attention to understanding characteristics of international strategic alliances that may be associated with their success. Although previous researchers consider behavioural and organizational characteristics as important determinants of international strategic alliance success, there has been very little empirical investigation between these characteristics and the success of alliances (Mohr and Spekman 1994; Parkhe 1993; Geringer and Herbert 1989). The limited empirical evidence suggests that behavioural and organizational characteristics are indeed important factors for explaining the success of international strategic alliances. However the reliability and validity of this evidence is affected by the unclear and partial understanding of the concepts investigated in this study. Therefore, the current chapter will attempt to clarify the meaning of the concepts for the behavioural, organizational and success dimensions of the study by reviewing existing research.

This chapter will review the existing body of knowledge concerning the behavioural and organizational characteristics of international strategic alliances and the success. The chapter begins by providing a conceptual definition of strategic alliances, followed by a discussion of major streams of literature concerning the motivations for international strategic alliance formation. The next section will provide an examination of the meaning of the concept of alliance performance. The final section will review the literature related to the behavioural and organizational factors of alliance success and from this the propositions to be tested in this study are developed.

2.2 THEORY OF INTERNATIONAL STRATEGIC ALLIANCES

2.2.1 The Concept of Strategic Alliances: Towards a Definition

A strategic alliance is regarded as a new term which is applied to independent firms cooperating and forming partnerships based on mutual needs. Yoshino and Rangan (1995) refer to them as the "New" alliances, which are different from traditional joint ventures and distribution relationships, licensing, franchising agreements, mergers and takeovers. Traditionally, alliances were seen as a vehicle for multinational companies to enter the local markets of firms overseas, especially within developing and socialist countries where, in order to enter the market, companies had to form alliances with domestic firms to satisfy host government requirements (Yoshino and Rangan 1995; Porter and Fuller 1986; Contractor and Lorange 1988; Gomes-Casseres 1988). These alliances between companies in the form of joint ventures emerged as an important international

supply mode during the 1960s (Contractor and Lorange 1988). Most of these joint ventures took the form of portfolio investments with little or no involvement by investors in the management of the venture partnership. These ventures have been referred to as equity joint ventures (Harrigan 1985; 1988).

Today alliances are more complex. They are seen as a response to globalization (Contractor and Lorange 1988). Companies are seeking strategic alliances to respond to increased competition, changing market conditions and rapid technological advances (Pucik 1988; Hladik 1988; Yoshino and Rangan 1995; Porter and Fuller 1986; Burgers et al 1993). Firms of all sizes and strengths cooperate with rivals and form complex webs of informal and formal alliances and compete worldwide. Perlmutter and Heenan (1986) assert that "to be globally competitive, MNCs must be globally cooperative. This necessity is reflected in the acceleration of global strategic partnerships among companies large and small" (p.136). These alliances are referred to as international strategic alliances, the incidence of which has increased over the last decade (Ghemawat et al 1986; Hergert and Morris 1988; Osborn and Baughn 1987; Glaister and Buckley 1994). The recognition that the "New" strategic alliances (Yoshino and Rangan 1995) are different is emphasized by Viesti (1988:1) who determined that:

- (i) There has been an increase in collaboration between major firms in advanced countries and at the same time a significant increase in collaboration initiatives between large multinational companies and small businesses, particularly in the high tech area.

- (ii) Recent joint ventures have an important technological content and often concern joint R&D projects between two or more firms.
- (iii) In the past the joint venture relationship has mainly involved a small company, usually acting on a subcontracting basis, for large a large purchaser (Hladik 1985:18). The more recent tendency has increasingly favoured balanced agreements between firms, often located at the same stages of the production cycle, which have similar products and are mutually competitive and equally strong in the market. Agreements of this type have often been described as "strategic partnerships" (Harrigan 1988) or in cases involving two companies which are developing a common long run strategy for the entire world market, "global strategic partnerships" (Perlmutter and Heenan 1986).

However it is important to clearly define the nature of strategic alliances being discussed, since the term has become a generally used one covering a wide variety of collaborative agreements between firms. Despite the attention paid to strategic alliances by practioners and academics (Berg et al 1982; Harrigan 1988; Burgers et al 1993; Parkhe 1993) there is no sufficiently detailed and theoretically consistent definition of what actually constitutes a strategic alliance. Researchers have used a number of different terms and as a result offered various definitions and characteristics to explain strategic alliances. The most commonly used terms are "strategic alliance" and "joint venture" which have been used interchangeably in the literature to refer to a all types of interfirm agreements (Yoshino and Rangan 1995; Ohmae 1989; Tepstra and Simonin 1993; Hagerdoorn and Sadowski 1999; Harrigan 1985; 1986; 1988; Hennart 1988; Kogut 1988; Pucik

1988). To add to the confusion researchers have adopted the use of various other terms described in the literature which also refer to a range of interfirm agreements, such as international cooperative arrangements (Root 1988), international collaborative arrangements (Hergert and Morris 1988), hybrid arrangements (Borys and Jemison 1989), cooperative ventures (Buckley and Casson 1988), coalitions (Porter and Fuller 1986), partnerships (Perlmutter and Heenan 1986; Mohr and Spekman 1994), channel relationships (Anderson and Narus 1990; Buchanan 1992; Heide 1994; Kumar et al 1995; Spekman and Sawhney 1990; Bucklin and Sengupta 1993) and cooperative agreements (Harrigan 1988). Other forms of collaboration between independent firms, such as licensing agreements, franchising, cross-licensing, buy/sell contracts and mergers and acquisitions have also been described as a form of interfirm arrangements (Harrigan 1985; Yoshino and Rangan 1995). However these types of arrangements are considered to be an alternative mode of organization to strategic alliances (Yoshino and Rangan 1995). This manifestation of terminology has resulted in a number of definitions and characteristics of strategic alliances. All the above listed terminology are used to address interfirm arrangements ranging from contractual agreements to a 50:50 joint venture (Yoshino and Rangan 1995). It appears from this that the use of the term strategic alliance is not uniformly utilized in research studies and researchers are not united in their concept of a strategic alliance and have thus used different terminology for describing what appears to be the same thing. However strategic alliances reflect a wide range of interfirm arrangements that are aimed at achieving the strategic objectives of the partners and include such arrangements as joint ventures,

minority equity stake, and contractual agreements (Das and Teng 1998; Yoshino and Rangan 1995; Tepstra and Simonin 1993; Harrigan 1988; Ohmae 1989).

2.2.1.1 Definitions of Strategic Alliances

Harrigan (1988) posits that *strategic alliances, joint ventures, cooperative agreements etc*, "are partnerships among firms that work together to attain some strategic objective". The emphasis in Harrigan's definition is on the strategic aspect of the alliance. Porter and Fuller (1986) give a simpler definition and defined coalitions as formal, long-term alliances between firms that link aspects of their business and include joint ventures, licensing agreements, supply agreements, marketing agreements and a variety of other arrangements.

A more specific definition is proposed by Sheth and Parvatiyar (1992) who define an alliance "as an ongoing formal relationship between two or more independent organizations to achieve common goals...which encompasses any formalized organizational relationship between two or more firms for some agreed purpose.....where the relationship is more than a standard customer-supplier or labour management relationship, but falls short of an outright acquisition or merger".

Another definition is proposed by Yoshino and Rangan (1995) which is more specific and provides a useable framework for strategic alliances. According to them "a strategic alliance links facets of the business of two or more firms. At its core, this link is a trading partnership that enhances the effectiveness of the competitive strategies of the participating firms by providing for the mutually

beneficial trade of technologies, skills, or products based upon them". They use the term strategic alliance to include a variety of forms, ranging from contractual agreements to a joint venture and refer to them as possessing three characteristics: (i) two or more firms unite to pursue a set of agreed upon goals but remain independent subsequent to the formation of the alliance. (ii) that partner firms share the benefits and control over the performance of the alliance. (iii) that partner firms contribute on a continuing basis in one or more key strategic areas. Their classification of strategic alliances excludes traditional contractual agreements such as arms's-length contracts, franchising, licensing since these types of arrangements involve no long-term mutual dependence, shared managerial control or continuing contributions of technology or products. Similarly, overseas subsidiaries of multinational corporations and mergers and acquisitions are not considered to be strategic alliances because only one firm assumes control of the new entity.

The marketing channels literature which is concerned with dealer-supplier type relationships are also referred to as strategic alliances (Mohr and Spekman 1994; Anderson and Narus 1990; Kumar et al 1995). For example Mohr and Spekman (1994) who investigated the relationship between a computer dealer and manufacturer defined *partnerships* as "purposive strategic relationships between independent firms who share compatible goals, strive for mutual benefit and acknowledge a high level of mutual interdependence. They join efforts to achieve goals that each firm, acting alone, could not attain easily". These supplier-dealer type relationships fall under what Yoshino and Rangan (1995) refer to as traditional contractual agreements and are not considered to be a strategic alliance.

In addition, within the marketing channels literature, marketing alliances have also been viewed as strategic alliances (Spekman and Sawhney 1990; Bucklin and Sengupta 1993; Tepstra and Simonin 1993). These marketing alliances can be structured as either equity or non-equity joint ventures (Sheth and Parvatiyar 1992).

Borys and Jemison (1989) defined hybrid organizational structures of strategic alliances that "use resources and or governance structures from more than one existing organization". These hybrid arrangements include mergers and acquisitions, joint ventures, license agreements and supplier arrangements. Cravens and Shipp (1993), however, classified different forms of hybrid alliances in to vertical supplier and channel relationships, joint ventures and strategic alliances.

The above definitions however do not emphasize that strategic alliances are an important phenomenon in international business and do not account for the international scope of alliances. Geringer and Herbert (1989) therefore proposed that a joint venture is considered to be international if at least one of the partners has its headquarters outside the venture's country of operation or where there is a significant level of activity in more than one country. This definition encompasses both equity and non-equity joint ventures (Glaister and Buckley 1998). Root (1988) defines an *international cooperative agreement* as "any form of long-term cooperation between two or more independent firms headquartered in two or more countries that undertakes or supports a business activity for mutual economic gain". Similar definitions have been provide by Hergert and Morris

(1988) and Contractor and Lorange (1988). Hergert and Morris (1988) use the term collaborative agreements and propose four attributes: (i) that the participants must share the risks and rewards. (ii) that they remain independent. (iii) that they provide inputs to the project on a continuing basis. (iv) that there is effective communication between participants. Contractor and Lorange (1988) use the term cooperative arrangements to characterize strategic alliances and refer to them as arrangements that involve firms of comparable size that may make similar rather than complimentary contributions.

The above discussion of definitions and terminology used to represent interfirm arrangements suggests that researchers have used many facets of strategic alliances and that "strategic alliance" has become a common term to refer to all types of interfirm arrangements (Sheth and Parvatiyar 1992).

2.2.1.2 Types of Strategic Alliances

Within this framework of interfirm arrangements, strategic alliances have been classified in a variety of different ways. Researchers are by no means united in their methods of classification (Faulkner 1995). The literature distinguishes between equity and non-equity arrangements. Equity arrangements are normally referred to as joint ventures and have been defined as independent organizational entities formed by two or more parent organizations to carry out productive economic activities (Harrigan 1985; 1989; Hennart 1988) and to create new certain advantages (Beamish and Banks 1987; Contractor 1984). Equity arrangements also include forms of alliances that involve equity participation, but no new entity is created (Yoshino and Rangan 1995; Tepstra and Simonin 1993).

In contrast non-equity arrangements have been referred to as cooperative agreements between partners that do not involve equity or the creation of a separate legal entity (Contractor and Lorange 1988; Hennart 1988; Tepstra and Simonin 1993). Harrigan (1988) refers to them as "cooperative agreements" and points out that cooperative agreements are easier to terminate than more formal ones because no equity is involved. Such agreements are described as non-traditional contracts (e.g. joint R&D, joint product development, long-term sourcing agreements, joint manufacturing, joint marketing, shared distribution service, research consortia).

Porter and Fuller (1986) classified strategic alliances into two types of coalitions: X and Y. In X coalitions the value chain activities of the partners are divided, for instance, one partner manufactures while the other takes the responsibility of marketing. In Y coalitions the partners share in all the various value chain activities. This is similar to Hennart's (1988) classification of equity joint ventures which he referred to as scale and link joint ventures. The scale joint ventures correspond to the Y coalition and the link joint ventures to the X coalition. However Hennart's (1988) classification includes only equity joint ventures, while Porter and Fuller (1986) include both equity and non-equity in their classification.

Dussauge and Garrette (1995), meanwhile use the terms horizontal strategic alliances, linking competing firms operating in the same industry, and vertical strategic alliances, linking buyers and suppliers in separate industries. Tepstra and Simonin (1993) distinguish between four types of alliances: (i) contractual

agreements between two parties for which no legal entity is created and there is no purchase of equity between parties. (ii) equity participation which involves the acquisition of equity in one firm by another. (iii) joint ventures in which a separate legal entity is created. (iv) consortia, a collaborative arrangement among three or more parties, regardless of the equity structure.

Faulkner (1995) notes that the number of different classifications of strategic alliances makes it difficult to decide which form to choose for analytical purposes. This has, therefore, resulted in a lack of a clear systematic definition of the phenomenon, that may be universally accepted (Terpsta and Simonin 1993).

From the above it can be seen that there is much confusion regarding what strategic alliances are. In all instances the assumption that cooperation between partners will improve performance exists. The above review has also indicated how the nature of strategic alliances has changed. Whereas traditionally the rationale for cooperation between firms was competitive and economic, alliances formed today have a strategic objective (created to realize certain corporate objectives) and are based on cooperation. Organizations are forming alliances with competitors, but at the same time are enhancing their capabilities and competitive positions through cooperation. Examples include Toyota and General Motors joint manufacturing at Nummi; Philips and AT&T's alliance in telecommunications; Bull and NEC in computer mainframes (Pucik 1988). Within this perspective alliances are seen as a way of nurturing cooperation between firms.

2.2.1.3 Conceptualization of International Strategic Alliance

In this study the term international strategic alliance will be used to describe both equity and non equity arrangements. Figure 2.1 illustrates the range of possible interfirm links and subsets that will be included in this study (Yoshino and Rangan 1995). Terpstra and Simonin (1993) have classified the range of interfirm links described in figure 2.1 into four types of international strategic alliances. As discussed above, these include *contractual agreements*, *joint ventures*, *equity participation*, and *consortia*. The focus of this study is on international strategic alliances that include these four types of alliances. In this study *contractual agreements* will include alliances that have been classified as "non traditional contracts" (see Figure 2.1). This type of alliance is defined as a non-equity formal agreement between two or more firms that pool resources or complement each other's strengths in the various functions of business such as in R&D, manufacturing, marketing or distribution (Contractor and Lorange 1988; Ohmae 1989; Hamel et al 1989; Tepstra and Simonin 1993). A *joint venture* in this study falls under equity arrangements in Figure 2.1 and includes only fifty-fifty joint venture types. A joint venture is defined as the establishment of a separate legal entity in which the equity is equally shared by both parties to the venture (Harrigan 1985; Terpstra and Simonin 1993; Yoshino and Rangan 1995). *Equity participation* also fall under equity arrangements in Figure 2.1 and include what Yoshino and Rangan (1995) refer to as minority equity investments, equity swaps and unequal equity joint ventures. Alliances of this type involve relationships between firms in which one firm purchases a minority or majority equity stake in the other firm in order to undertake joint activities (Killing 1983; Terpstra and Simonin 1993). Finally *consortia* are collaborative arrangements between three or

more partners regardless of their equity structure. In this study consortia can range between the "contractual arrangements" and "equity arrangement" depicted in Figure 2.1. Other types of cooperative agreements, such as licensing and franchising, cross-licensing, mergers and acquisitions, subsidiaries of MNCs will not be considered because they do not involve for example pooling of resources, common objectives, sharing of costs and risks, commitment, interdependency. International strategic alliances investigated in this study are ones in which UK international firms are engaged in alliances with firms from the USA, Western Europe and Japan.

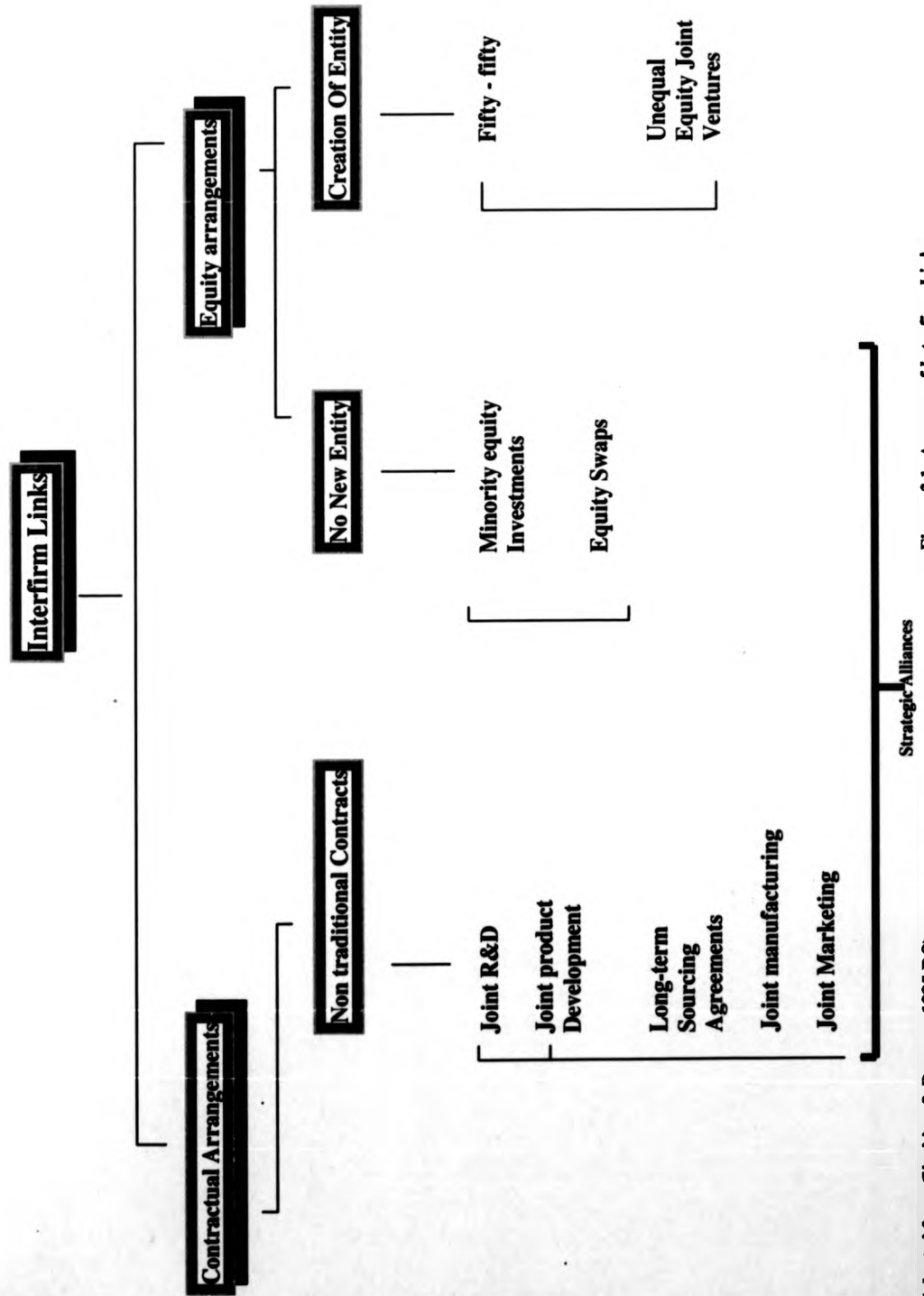


Figure 2.1: A range of Interfirm Links

Adapted from (Yoshino & Rangan, 1995, P 8)

2.3 MOTIVES FOR INTERNATIONAL STRATEGIC ALLIANCES

There are many motivating factors behind the formation of international strategic alliances. According to Terpstra and Simonin (1993) the motives represent the benefits sought by international firms when entering partnerships. The real objectives of the firms are difficult to observe because of hidden agendas. For instance collecting intelligence, blocking competition, or learning new competencies from a partner are examples of motives that are difficult to trace (Terpstra and Simonin 1993).

Most research on strategic alliances has been concerned with theories addressing the reasons why firms enter into closer business relationships. A number of theoretical frameworks have been advanced, which attempt to explain the motives underlying the entry of firms into strategic alliances. The motives underlying a firm's entry into strategic alliances will be discussed in the following section in relation to these theories. As noted in the previous discussion, the use of the term strategic alliance, international strategic alliance and joint venture will be used throughout the study.

2.3.1 Theoretical Perspectives on International Strategic Alliances

In this section the main theoretical perspectives will be reviewed. The theoretical perspectives will help to clarify the motivation and goals of international strategic alliances. This is followed by an examination of the basic propositions of each

theory which help to identify the application of these theories in understanding the success of international strategic alliances. In international business theory various perspectives have been addressed to explain international strategic alliances, emphasizing conceptual and empirical evidence. Theoretically these approaches can be summarized into four major areas, namely:

- (i) transaction cost theory
- (ii) strategic behaviour theory
- (iii) resource dependency theory
- (iv) organization theory

2.3.1.1 Transaction Cost Theory

Internalization theory was developed to provide an economic rationale for multinational activity as a response to imperfect markets (Buckley and Casson 1976; Buckley 1993; Buckley and Young 1993; Dunning 1988; Beamish and Banks 1987). The internalization theory posits that, due to the transaction costs of conducting business in imperfect markets, it is more efficient (less expensive) for the firm to internalize market structures by establishing local operations as a means of serving a foreign market than to engage in arms-length transactions with market intermediaries (Teece 1986; Buckley 1988). Thus, market failure is a crucial reason for internalization.

In relation to joint ventures internalization theory states that firms would have a strong economic incentive to avoid joint ventures (as well as contractual agreements) since these are regarded as being inferior to wholly owned

subsidiaries in exploiting the firm's ownership-specific advantages (Caves 1982; Rugman 1983; Killing 1983) Harrigan 1985). The firm should internalize their markets because problems associated with joint ventures (and contractual arrangements), such as strategic risk and transaction costs, cannot offset the firm's ownership-specific advantages (Beamish and Banks 1987)

According to Teece (1983), however the attractiveness of joint ventures is a function of both the revenue-enhancing and cost-reducing opportunities they provide to the multinational enterprise. Beamish and Banks (1987) have extended the internalization approach to the theory of the multinational enterprise (MNE) to explain the rationale of joint ventures. Following Teece (1983), Beamish and Banks (1987) argue that joint ventures represent the most efficient solution under two conditions. These are: (i) the firm possesses a rent-yielding asset which would allow it to be competitive in a foreign market. (ii) the joint venture arrangements must be superior to other means for appropriating rents from the sale of assets in the foreign market. Another perspective on international strategic alliances based on transaction cost theory has been offered by Buckley and Casson (1988) who suggest that three aspects of transaction cost theory can explain the existence of joint ventures: (i) *Internalization of economies*. The firms involved in the joint venture gain some benefit from internalizing the intermediate market of goods and / or services. (ii) *An element of economic indivisibility*. The firms involved in the joint venture do not prefer outright ownership because of some compensating advantage of operating jointly. (iii) *Obstacles to merger*. There are disincentives to a merger for the parties involved in a joint venture.

The internalization approach has also been extended to provide an economic rationale for joint ventures utilizing transaction cost theory (Buckley and Casson 1988). Transaction cost theory relates to the governance structures that are developed in order to manage transactions. Coase (1937) developed insights into why firms exist and viewed firms and markets as alternative governance structures that differ in their transaction costs. Coase (1937) proposed that the costs of economic exchange in a market may exceed the costs of economic exchange within a firm. The firm will internalize those activities it is able to perform at a lower cost and will rely on the market for those activities in which other providers have an advantage (Coase 1937). Hence, firms exist because they can sometimes reduce the costs of negotiating and enforcing terms and conditions of exchange relative to market transacting

Williamson (1975) offered an additional explanation within the transaction cost framework and identified the "markets and hierarchies" approach. According to Williamson (1975) market failure is determined by a set of environmental factors that, together with a set of related human factors, explain how multinational firms can organise transactions to reduce the costs associated with these transactions. The environmental factors include uncertainty, small number bargaining and asset specificity; the human factors are bounded rationality and opportunism.

The combined force of these factors results in an increased need for extensive contracts to cover all contingencies thus increasing the costs of writing, executing and enforcing arms-length contracts with market intermediaries. It thus becomes more efficient to organize such transactions internally. Williamson (1975) argues

that by internalizing transactions efficiency can be increased in several ways: (i) the bounds of rationality can be extended by specialization of decision-making and economising on communications. (ii) interdependent units can adapt to unforeseen contingencies through coordination and reduce uncertainty. (iii) opportunism can be reduced through internal incentives and control mechanisms. (iv) the information gap between autonomous units can be narrowed.

These properties of transaction costs have also been used to explain joint ventures by many researchers (Buckley and Casson 1988; Beamish and Banks 1987; Hennart 1988). Beamish and Banks (1987) extended the internalization approach to provide an economic rationale for joint ventures using the transaction cost paradigm. Beamish and Banks (1987) suggested that joint ventures that conformed to certain preconditions and structural arrangements were better able to deal with the market disabling factors of opportunism, small numbers dilemma and uncertainty in the face of bounded rationality than wholly-owned subsidiaries.

Joint ventures are less likely to exhibit opportunistic behaviour if the venture has been created with a spirit of trust and commitment to its long-term success. This is similar to the concept of forbearance where agents on a reciprocal basis deliberately pass up short-term advantages (Buckley and Casson 1988). Anderson and Weitz (1992) found that channel members committed to the relationship made more short-term sacrifices for long-term benefits. Furthermore, if these positive attitudes are reinforced with supporting inter-organizational linkages such as mechanisms for the division of profits, joint decision-making processes and reward and control systems, the incentives to engage in opportunistic behaviour

could be minimized (Williamson 1983). In the absence of opportunism, supported by the inter-organizational linkages mentioned above the small numbers dilemma can be effectively dealt within a joint venture (Beamish and Banks 1987)

Beamish and Banks (1987) also proclaim that pooling and sharing of information provides the joint venture parties with little incentive to behave opportunistically, thus reducing the problem of uncertainty more cost effectively than through pure hierarchical or market approaches. Although bounded rationality would continue to be a problem, a pure hierarchical mode of transacting would not represent a superior solution to this problem alone. Thus, the low costs associated with opportunism, small number, uncertainty in joint ventures under the conditions specified above would render this mode of transacting the most efficient means of serving a foreign market (Beamish and Banks 1987).

Hennart (1988) explains that joint ventures are preferred because of the presence of inefficient markets for intermediate inputs. The presence of high transaction costs in each firm's intermediate markets will lead to internalization between the two firms. Global competition, technological developments and rising costs are forcing technologically driven companies to pursue economies of scale for efficiency reasons (Contractor and Lorange 1988; Hennart 1988). In many industries, such as automobile manufacturing, increases in the minimum efficient scale of economic activities have led firms to form alliances on a global scale (Hennart 1988). Hennart (1988) points out that coordination through alliances is more preferable than coordination through spot markets or contracts because of the desire to reduce costs through economies of scale. This means that the ability

of independent firms to go it alone is not viable and so formation of alliances becomes necessary. John (1984) argues that the web of norms, attitudes, and perceptions constituting the social contract reduces incentives for opportunistic behaviour. John's findings are consistent with Ouchi's (1980) proposition that a common set of norms, values and beliefs reduces opportunism and leads to cooperation.

2.3.1.2 Strategic Behaviour Approach

The strategic behaviour approach offered by the strategic management literature stresses the strategic motives of firms for engaging in international strategic alliances. In this approach international strategic alliances are formed to enhance their competitive position or market power in order to improve their overall profitability (Porter and Fuller 1986; Harrigan 1985; Contractor and Lorange 1988; Ohmae 1989). Whereas the transaction cost theory predicts that strategic alliances will be formed for minimizing costs, the strategic behaviour explanations rests on the assumption that firms transact by the mode which maximizes profits through improving a firm's competitive position vis-à-vis its rivals (Kogut 1988).

Harrigan (1985) provides a comprehensive view of strategic motives and classifies them into *internal benefits* associated mainly with cost reduction and the sharing of resources; *competitive benefits* aimed at improving the firm's strategic position through forcing their industries structures to evolve in a favorable manner, preempting competitors and developing defensive strategies in mature industries; *strategic benefits* aimed at implementing changes in the firms; and *strategic postures* through access to new technology or diversification.

Porter and Fuller (1986) identified four classes of strategic benefits for alliance formation. The first is gaining *economies of scale* by concentrating the activity within one entity to serve both firms. The second is gaining *access* to the knowledge and ability to perform an activity where there are asymmetries between firms. Thirdly strategic alliances are seen as an attractive mechanism for *hedging* risk because neither partner bears the full risk and cost of the alliance activity. A fourth class of benefits of alliances is *shaping* competition, because strategic alliances can influence whom a firm competes with and the basis of competition.

Ohmae (1989), meanwhile, based the motives for alliance formation on the challenges of globalization. Ohmae (1989) suggested that international strategic alliances are an important means for firms to gain a foothold in the global marketplace and thus become effective global competitors. Contractor and Lorange, (1988) in addressing the conditions necessary for entering into a cooperative relationship, take the viewpoint of one partner and examine the contribution it makes to a given venture's strategy. They cite several strategic motives necessary for alliance formation:

- (i) *risk reduction*, through spreading the risk of a large project over more than one firm; enabling product diversification and thus reducing market risks associated with being reliant on only one product; enabling faster market entry and quicker establishment of presence in the market.
- (ii) *economies of scale and/or rationalization*. Costs are reduced by using the comparative advantage of each partner and through the larger volume

- produced in the more advantageous location by realizing economies of large-scale production.
- (iii) *technology exchanges*. Strategic alliances may be formed to bring together complimentary skills and talents and the exchange of patents and territories.
 - (iv) *co-opting or blocking competition*. Strategic alliances can be used as either a defensive strategy to reduce competition or as an offensive strategy to increase costs and/or lower market share for a third company.
 - (v) *overcoming government trade or investment barriers*. Forming alliances with a local firm to accommodate host government policy to enter the market and thus satisfy the needs of the local market.
 - (vi) *facilitating initial international expansion of inexperienced firms*. Alliances facilitate entry to a foreign market for small and medium sized firms lacking in international experience.
 - (vii) *Vertical quasi integration*. Alliances can be a form of quasi-integration with each partner contributing one or more different elements in the production and distribution chain (access to markets, technology, materials, labor, capital, distribution channels etc.).

However Glaister and Buckley (1996), in their study on the strategic motives for alliance formation by UK firms with partners from Western Europe, Japan and the USA, found that gaining a significant presence in a new market, enabling faster market entry, market penetration, shaping competition and maintaining market share were the most important motivating factors compared to motives of risk reduction and economies of scale which were not particularly important. Thus

their research emphasizes the competitive motives of forming alliances used to gain competitive advantage and global market share. Burgers et al (1993) investigated strategic alliance activity in the global automotive industry and also found the desire to reduce demand and competitive uncertainty were two motives for alliance formation. Child and Faulkner (1998) however stated that all these strategic rationales for forming alliances shows compatibility and transparency of the strategic motives of the partners for forming alliances. They state that a lack of openness about the motives is likely to limit the chances of trust developing between the partners and may threaten the very survival of the partnership. They also note alliance partners need to cooperate in a way that they can work together effectively and have a sound basis on which mutual confidence can develop. For this to happen, each partner must have sufficient awareness of each other's requirements to be able to work together effectively. This means that partners should be able to learn from each other's cultural differences and be able to bring together their respective management systems, capitalizing on the strengths of each. This suggests a learning aspect to the formation of strategic alliances (Child and Faulkner 1998).

Kogut (1988) argued that both transaction cost theory and strategic behaviour theory should be treated as complementary rather than as substitutes. He further argues that the joint venture decision may stem from profit motivations and, in fact, may represent a more costly, though more profitable, alternative to other choices. Kogut (1988) states that there are two important differences in the implications of a transaction cost and strategic behaviour analysis. These are the identification of the motives to cooperate and the selection of partners.

2.3.1.3 Resource Dependency Theory

The resource dependency theory maintains that firms depend on other firms within their environment to acquire needed resources (Pfeffer and Nowak 1976). In this view no firm is self sufficient for all the required resources in order to compete effectively (Root 1988) and all firms must engage in an exchange relationship with other firms to survive (Levine and White 1961). Pfeffer and Nowak (1976) propose that alliances are formed to manage interorganizational dependence and suggest that patterns of alliance activity are systematically related to patterns of competition and to symbiotic interdependence confronted by organizations. As a result, organizations strive to reduce uncertainty in their interactions with other organizations in their environment. Thus strategic alliances may be a viable form of interorganizational structure to minimize uncertainty and gain access to the resources needed for survival. Heide (1994) proposed that the identification of dependence and uncertainty are key antecedent variables underlying the formation of strategic alliances. Thus the need to acquire resources creates dependencies between different organizations.

According Pfeffer and Salancik (1978) this scarcity of resources prompts firms to engage in strategic alliances in an attempt to exert power and control over firms, which possess the required resources. Resource dependencies compel organizations to construct interorganizational structures to reduce uncertainties (Pfeffer and Salancik 1978). However if firms are certain about each other's actions and intentions, the concern for control of interdependencies would be minimal (Sheth and Parvatiyar 1992). Similarly, Child and Faulkner (1998) noted

that resource scarcity may encourage cooperation rather than competition, resulting in a relationship based on mutual support rather than domination.

2.3.1.4 Organization Theory

A number of authors (Kogut 1988; Hamel 1991; Badaracco 1991) have stressed the role of organizational learning as a primary motive for the formation of strategic alliances. The basis of this perspective is that firms can be conceived as organizations embodying different skills (Kogut 1988). Kogut (1988) views strategic alliances as a means by which firms learn or seek to retain their capabilities. In this view, firms consist of a knowledge base, or set of competencies, that are not easily diffused across the boundaries of the firm (Hamel 1991; Badarraco 1991). Badarraco (1991) described this knowledge and skill as being "embedded knowledge" which resides primarily in specialized relationships among individuals and groups of people, and in the particular norms, attitudes, information flows and ways of making decisions that shape their dealing with each other. This means that the transfer of organizational knowledge and skills through the market may be impeded (Kogut 1988). Strategic alliances are then the only way through which knowledge may be successfully transferred (Badarraco 1991). Kogut (1988) maintains that the choice of a strategic alliance is fundamentally driven by two conditions:

- (i) one or both firms desire to acquire the other's organizational know-how
- (ii) one firm wishes to maintain an organizational capability while benefiting from another firm's current knowledge or cost advantage.

Hamel (1991) uses the term "core competencies" to describe the capabilities of a firm and argues that alliances may provide the optimal mode to acquiring access to these capabilities thus providing the opportunity for the internalization of skills to improve a firm's competitive position. Similarly, Hall (1992) identified intangible sources of sustainable competitive advantage associated with the possession of advantages in capabilities over competitive rivals. These intangible resources included patents, trade marks, data, know-how and learning capabilities.

2.3.1.5 Discussion

The four theoretical approaches reviewed above offer considerable insight in to the understanding of international strategic alliances. However, there are certain limitations. The transaction costs approach explains why international strategic alliances will occur but cannot predict how the process of forming alliances actually unfolds (Hamel 1991). Furthermore it tells us nothing about how an alliance should be managed successfully. The strategic behaviour approach does not make clear how an alliance agreement should be negotiated or how to deal with the relationship between partners (Gomes-Casseres 1988). The resource dependency theory does not prescribe how an alliance should be organized and managed successfully (Gomes-Casseres 1989). Organization theory as a theory of strategic alliances has not been fully developed in terms of explaining the choice to form an alliance relative to other modes of cooperation (Kogut 1988). The theoretical perspectives delineated above provide a comprehensive understanding for the existence of strategic alliances from different perspectives. The explanations provide distinct, though at times, overlapping explanations for alliance formation. The underlying premise of the above theories is that strategic

alliances which are able to minimize their organisation costs, reduce opportunistic behaviour, improve their competitive position, minimize uncertainty by drawing on the competence and skills of other firms, will be able to compete more effectively in the marketplace. Basically the theories are implying that if strategic alliances are formed under the right circumstances, they will be successful.

Although the theories addressing the reasons for alliance formation may be seen as benefits of international strategic alliances, there is some evidence to suggest that strategic alliances do not succeed (Harrigan 1988; Devlin and Bleackley 1988; Beamish 1985; Kogut 1989). Strategic alliances have been widely described as difficult to manage (Harrigan 1985, 1988; Beamish 1985, 1988; Killing 1983; Parkhe 1993) and prone to high rates of failure (i.e. 30% to 70%) due to dissatisfaction with performance (Beamish 1985; Gomes-Casseres 1987; Kogut 1988; Devlin and Bleackley 1988). Harrigan's (1988) explanation for the failure of alliances is derived from the resources dependency theory. The stability of strategic alliances depends upon the strategic symmetry between partners. This means that partners must possess complimentary goals, resources and managerial capabilities. The idea behind strategic symmetry is that each partner brings unique strengths to the alliance. Therefore a lack of strategic symmetry between partners contributes to the instability and failure of strategic alliances (Harrigan 1988).

A number of early researchers paid much attention to organizational characteristics of strategic alliances, concentrating mainly on the control of these alliances (Killing 1983; Kogut 1988). More recently, a number of researchers have emphasized the behavioural dimensions that are characteristic of

international strategic alliances (Beamish and Banks 1988; Mohr and Spekman 1994; Aulakh et al 1996). Researchers have addressed the role of trust, commitment, coordination, interdependence, conflict, communication as determinants of alliance success (Mohr and Spekman 1994; Aulakh et al 1996; Saxton 1997; Cullen et al 1994). In this study it is proposed that firms that establish international strategic alliances based on both organizational and behavioural characteristics are more likely to be successful in meeting their objectives compared to less successful alliances.

2.4 INTERNATIONAL STRATEGIC ALLIANCE SUCCESS

2.4.1 The Concept of Strategic Alliance Success

The importance of the performance concept and the broader area of organizational effectiveness has been widely recognized (Campbell 1977; Goodman and Pennings 1980; Venkatraman and Ramanujam 1986; Varadarajan and Ramanujam 1990; Eccles 1991). Despite the volume of literature on this topic, there appears to be little consensus on basic terminology and definition. This controversy over the terminology used and the definition and measurement of performance has made the conceptualization and operationalization of performance within strategic alliances difficult, making it a primary concern within the strategic alliance literature and an important issue among researchers (Anderson 1990; Geringer and Herbert 1989; 1991). Most researchers tend to define performance to reflect the measures they have used. For example Beamish (1988: 68) defined success as "a stable healthy and profitable business relationship that meets the needs of both partners". Anderson (1990) suggested that alliance performance should be based

on whether the objectives of the alliance have been achieved. Parkhe (1993) argued that performance should be based on the fulfillment of the alliance's strategic goals. In terms of terminology some researchers have used the term "performance" (Dang 1977; Geringer and Herbert 1989) and "effectiveness" (Lyles and Baird 1994; Reuer 1998) while others have used the term "success" (Killing 1983; Schaan 1983; Dussauge and Garrette 1995). A variety of measures for the performance of strategic alliances have also been used by researchers.

2.4.2 Measures of Success

Measures of international strategic alliance performance have been classified in to three main groups: (i) financial indicators, (ii) objective measures and (iii) subjective measures (Geringer and Herbert 1991).

2.4.2.1 Financial Indicators

Financial performance reflect the fulfillment of the economic goals of the international strategic alliance and can be measured by a broad range of financial indicators. Early studies used a variety of financial measures such as profitability (Good 1972; Dang 1977), growth (Good 1972; Dang 1977), cost position (Renforth 1974) and return on investment (Good 1972; Dang 1977; Renforth 1974).

Good (1972) in a comparative study of 28 American and Mexican joint ventures discriminated between successful and less successful ventures in terms of three financial measures. These were (i) profitability measured in terms of return on

equity and return on investment, (ii) growth of sales, profits and total assets and (iii) capital intensity measured by the ratio of fixed assets to total employment. Renforth (1974), meanwhile, compared the performance of two types of joint ventures: joint ventures involving US firms and a family partner firm and joint ventures between US firms and non family partner firms in the Caribbean. His measures included (i) total sales, (ii) cost of goods sold, (iii) net profit, (iv) return on assets, (v) return on investment, (vi) total assets, (vii) total liabilities, and (viii) total capital and (ix) working capital. Another study by Dang (1977) investigated the relationship between ownership and performance of US joint ventures and wholly-owned subsidiaries in Taiwan and the Philippines. Dang's (1977) performance measures included (i) growth of sales, (ii) return on equity, (iii) return of sales, (iv) return on assets, (v) asset turnover, (vi) value added and (vii) productivity.

In each of the three studies, no significant differences were found between performance and joint venture, despite the researchers using different measurement processes. Good (1972) used the raw data from the financial statements, Renforth (1974) used the percentage changes of the final measures over a five-year period, while Dang (1977) expressed his performance indicators in terms of deviations from the means of local industries. It seems that while financial indicators were the performance goals of these studies, their usefulness was less effective because of their limited comparability across industries and countries.

2.4.2.2 Objective Measures

A variety of objective measures can also be found in the literature on international strategic alliances, such as survival – whether the venture is still operating at the time it is being studied (Franko 1971; Killing 1983; Blodgett 1991; Kogut 1988; Geringer and Herbert 1991), its duration – the number of years between its formation and its termination (Harrigan 1988; Geringer and Herbert 1991) and stability which refers to changes in ownership or capital structure (Gomes-Casseres 1987; Kogut 1988; Geringer and Herbert 1991).

Both *financial indicators* and *objective measures* manifest limitations that make them ineffective in evaluating the performance of a strategic alliance (Geringer and Herbert 1991). Firstly *financial indicators* do not adequately reflect the extent to which an international strategic alliance has achieved its short-term objectives. For example, an alliance may not, in the first instance, have been formed to increase short-term profits, but to improve access to overseas markets, to encourage technology transfer, to block competitors or to pool resources for more cost effective, speedy product development (Killing 1983; Blodgett 1991; Contractor and Lorange 1988). Financial indicators are, therefore, in such cases, poor indicators of the success of the alliance. Furthermore, financial indicators of performance, although adequate for measuring financial goals, are not the only goals of international strategic alliances (Anderson 1990; Geringer and Herbert 1989). Anderson (1990) notes, that financial measures evaluate only one dimension of performance and argues that other measures, including qualitative ones, must also be examined in order to better evaluate the performance of international strategic alliances. This is because, in spite of poor financial

performance, the alliance may have achieved its objectives and thus be considered, by the firm's managers, to have been a success. Conversely Geringer and Herbert (1991) argue that an international strategic alliance may be viewed as unsuccessful despite good financial results. It appears that financial measures are adequate only in those cases in which financial performance is a prominent goal, as in the case of most early studies rather than more recent ones. Thus although financial measures are adequate measures of business performance, in international strategic alliances, by themselves they are a poor measure of the alliance's value, because alliances are set up in risky and uncertain environments (Anderson 1990). Furthermore, access to financial data may be difficult, since firms may be reluctant to provide this information, making these data biased and questionable (Lasserre 1997). This finding can be reinforced by the fact that financial indicators were used more frequently in earlier studies rather than in more recent ones (Geringer and Herbert 1991).

Objective measures may also be ineffective in evaluating the business performance of international strategic alliances and the extent to which the objectives of the alliance have been achieved in the short and long-term. One explanation given is that in order for these measures to be effective, the alliance must first have been terminated and secondly failed. For example Raveed (1976) used the concept of survival in his study of joint ventures between US multinationals and host governments in Trinidad and Venezuela to distinguish between successful and less successful joint ventures. In Trinidad the survival rate was 100% (all joint ventures survived) whereas in Venezuela the survival rate was zero (all joint ventures failed) and therefore the concept of survival proved to

be ineffective. On the same subject Blanchot and Mayrhofer (1997:911) have argued that objective measures are ambiguous dimensions of joint venture success because it is the "premature failure of the joint venture in regard to the objectives fixed by its parents that has to be avoided. Therefore, a short duration of a joint venture should not systematically be equated with failure". Gomes-Casseres (1987) identified several reasons for joint venture termination including dissolution due to partner's acquisition of new capabilities, growth in a partner firm's network that may lead to a change in ownership structure to exploit economies of scope and government policy changes. Thus Gomes-Casseres (1987) argued that joint ventures are an intermediary organizational form in transition because of the very nature of their strategic objectives and thus termination of the venture does not necessarily mean failure. Moreover, Harrigan (1988:207) suggests that "if exit barriers are high, successful strategic alliances are not necessarily indicated by long-lived ventures, and short-lived ventures can be judged as successes from both sponsors' perspectives if they have achieved their strategic purpose". According to Reuer (1998: 167) firms may undertake international strategic alliances as a "temporary gap-filling mechanism, as a means of taking an option on an emerging technology or market, as a structural choice suited to features of exchange at the time of market entry, or as a response to legal and political conditions in a host country". In this way international strategic alliances may be viewed as intentionally temporary and thus plan and anticipate their termination (Park and Gerado 1997). Therefore, it can be said that duration and survival do not effectively assess the performance because the termination of an international joint venture may be the result of success or failure.

2.4.2.3 Subjective Measures

Because of the inadequacies associated with both financial and objective measures, many researchers have relied on subjective measures of performance (Killing 1983; Schaan 1983; Beamish 1984; Geringer and Herbert 1991; Bucklin and Sengupta 1993; Cullen et al 1994; Lee and Beamish 1995; Mjoen and Tallman 1997; Saxton 1997).

The most commonly used subjective measure is an overall assessment of the firm's satisfaction with the performance of the international strategic alliance (Killing 1983; Schaan 1983; Geringer and Herbert 1991). This has the advantage of assessing to what extent the alliance's objectives have been achieved. Killing (1983) was the first researcher to use a perceptual measure of performance in international joint ventures. Killing (1983) used the subjective evaluation of international joint venture general managers by asking them to rate on a five-point scale (1:extremely well to 5:extremely poorly) how well their company was doing. In order to enhance the measure's reliability Schaan (1983) and Beamish (1984) both used a similar single-item perceptual indicator to measure each parent firm's satisfaction with the performance of the venture. While this type of measure is easier to obtain and has the advantage of overcoming the limitation of using financial measures (as discussed above) the researchers have typically used this perceptual measure in isolation leading to a more subjective assessment of an alliance's performance. The disadvantage in this is that respondents may be biased in their subjective judgements. However, Geringer and Herbert (1991) in their study of international joint ventures in Canada and the USA found that perceptual assessments of performance and satisfaction significantly correlated

with objective measures such as survival and duration, which justifies the use of these measures over other performance measures. Another subjective measure is the assessment of the actual performance as compared to expectations with respect to specific dimensions of the international strategic alliance such as sales levels, production, profits and market share (Killing 1983; Schaan 1983; Geringer and Herbert 1991). Geringer and Herbert (1991) classify this measure as subjective because the kind of data cannot be found in secondary sources.

In more recent studies, a number of other perceptual measures are being used. Bucklin and Sengupta (1993), in an exploratory study of co-marketing strategic alliances in the computer and semiconductor industries, measured performance in terms of the perceived effectiveness of the relationship. Perceived effectiveness was the extent to which both firms found the alliance productive and worthwhile. Bucklin and Sengupta's (1993) explanation for this was that many benefits would be difficult to track if quantitative measures were used. Similarly Cullen et al (1994) measured the performance of Japanese international joint ventures using a perceptual measure because of the reluctance of the Japanese to disclose performance data. Their measure of performance addressed whether the international joint venture had met or exceeded expectations concerning profitability, market penetration and growth. These aspects of performance have also been considered by other researchers (Geringer and Herbert 1991; Dussauge and Garrette 1995; Aulakh et al 1996).

To summarize, the review of the literature on international strategic alliance success has shown that there is no single or adequate measure of success. One

reason for this may be the lack of a definition of international strategic alliance success. As a result more empirical evidence is required in order to improve our understanding of what success within international strategic alliances means. In the current study, in view of the heterogeneous nature of the sample (in terms of industrial classification and the types of international strategic alliance), it was considered necessary to use multiple measures of success measuring both the perceived performance and satisfaction of the international alliances investigated. For a more detailed discussion on the measurement of international strategic alliance success for this study see section 4.5.2.

2.4.3 Determinants of International Strategic Alliance Success: Empirical Evidence

This section discusses prior research examining strategic alliance success. The importance of managing successful international strategic alliances has been reflected extensively in the literature, and has primarily focused on the ex ante structuring of alliances (Parkhe 1993). Researchers have examined the rationale for international alliances (Contractor and Lorange 1988; Hagedoorn 1993; Harrigan 1988; Hennart 1991; Kogut 1988; Glaister and Buckley 1994), partner selection and characteristics (Geringer 1991; Blodgett 1991), and the ownership, control and performance relationship (Killing 1983; Schann 1983; Tomlinson 1970; Geringer and Herbert 1989). For a full discussion on the control-performance relationship see section 2.5.2.2. The fundamental basis of these studies is that if the partners are not compatible, motivations of partners are not congruent and ownership and control are not sorted out, the alliance is likely to

experience difficulties and thus become unsuccessful. Furthermore, these dimensions are unlikely to capture the relationship aspects of alliances.

Research studies have reported both satisfactory and unsatisfactory performance of international strategic alliances (Killing 1983; Bleeke and Ernst 1991; Harrigan 1985). Estimated failure rates have ranged from 30% to 70% depending on the region, with joint ventures in developing nations suffering from greater failure than those in developed countries (Beamish and Delios 1997). These studies however, only investigated the stability of the international joint venture and not any other measures of success.

In terms of factors influencing alliance success or failure, most research has focused on the control - performance relationship. (Killing 1983; Tomlinson 1970; Janger 1980; Beamish 1984; Kogut 1988; Bleeke and Ernst 1991; Blodgett 1992).

Kogut (1988) examined the mortality rate among international joint ventures and the reasons for joint venture success. He argued that joint ventures underwent a life cycle of creation, institutionalization and eventual termination - which may be the result of either dissolution of the partnerships or full acquisition by one of the partners. From his sample of 148 of US domestic firms and international joint ventures, 60% had been terminated within a life cycle of six years, 57% were dissolved, and 43% were fully acquired by one partner. As a result Kogut (1988) posited that: (i) dominant joint ventures were more stable than shared joint ventures. (ii) joint ventures that differed in size were less stable. (iii) joint

ventures were more unstable in highly concentrated industries. (iv) joint ventures with a partner who has market access are more stable.

However his results were inconclusive because they were not supported by statistical testing. Dymsha (1988) in his analysis of 100 joint ventures in developing countries argued that major factors for success included achievement of major goals, complimentary contributions; synergy; comprehensive agreement; joint management responsibilities; control; transfer pricing; financial arrangements.

In terms of the number of alliances that were found to be successful, all of the above studies reported that almost half of the alliances performed unsatisfactorily. Between thirty to sixty percent of the alliances failed. Furthermore, these studies have indicated that perhaps all strategic alliances cannot be managed in the same way. Beamish (1985) suggested that the management of international joint ventures should differ because of the differing environments and experiences of different countries. Though there is no doubt that many contextual factors contribute to the success or failure of international strategic alliances, more recent research has theorized that the presence of behavioural factors are central to successful alliances (Mohr and Spekman 1994; Morgan and Hunt 1994; Faulkner and Mcgee 1995; Aulakh et al 1996). Faulkner and Mcgee (1995) provide evidence to suggest that the success and failure of strategic alliances is dependent upon a close relationship between partners; good organizational arrangements; ability to learn from one's partner and an evolving relationship. Their research was limited, however to 10 international strategic alliances. Mohr and Spekman

(1994) addressed the behavioural characteristics associated with strategic alliance success within the context of dealer-supplier channel relationships. The results of their study indicated that trust, willingness to coordinate activities and the ability to convey a sense of commitment to the relationship are critical to success of the partnership. However their research only investigated domestic strategic alliances in the USA personal computer industry. A full discussion of behavioural characteristics is provided in section 2.5.

In conclusion although research on international strategic alliances has been ongoing for the last decade, it is still at a stage of infancy. Descriptions and prescriptions dominate the literature. Several significant gaps still exist in our understanding. Most importantly we do not know the criteria that UK managers of international alliances use in evaluating performance in the 1990s nor the factors by which these criteria are developed. This study will go some way to plugging this gap in the literature.

2.4.4 A Measure of International Strategic Alliance Success

As explained in the above section, strategic alliance success is a problematic construct, both in terms of establishing a definition and also in terms of measurement. Given the range of purposes for which international strategic alliances are formed and the many different types of alliances formed, it would not be possible to arrive at one definition of strategic alliance success that would be applicable to all types of alliances. Furthermore, it would not be possible to use a single measure of alliance success, which would be appropriate to the many types of alliances formed, because of their different objectives.

In this study, international strategic alliance success is the dependent variable. The measures of alliance success are subjective assessments rather than objective. The discussion of prior research earlier highlighted the importance of subjective evaluation as an alternative for objective data on performance. This approach was used for various reasons. The current study is examining different types of strategic alliances across a range of industries. The above discussion has suggested that financial indicators would be of little use because of their limited comparability across different types of alliances and different industries, as well as the difficulty of accessing accurate financial data. Likewise objective indicators would also not adequately evaluate business performance or the extent to which the objectives of the alliance have been achieved. While a subjective evaluation may fail to provide an objective assessment of the strategic alliance, it does provide a greater understanding of the subjective assessments provided by key executives (Geringer and Herbert 1989; Anderson 1990). Subjective measures have the ability to incorporate the variety of goals pursued by international strategic alliances. Subjective measures also reduce the problem of lack of comparability across different types of international strategic alliances or the different types of industry in which they are formed (Hill 1988). Furthermore, subjective assessments incorporate both perceptual and objective measures of performance (Anderson 1990).

In the current study the subjective assessment of UK international strategic alliances was evaluated multidimensionally, combining perceptual and objective measures to assess the performance of the alliance. A number of researchers have used such composite measures of performance. For instance Blumenthal (1988)

relied on the parent firm's assessment of alliance performance along nine dimensions and a measure of the parent firm's overall satisfaction. Hill (1988) combined similar variables and a perceptual assessment of financial performance. Secondly, it was made clear from the initial contact with the UK firms that financial data would be virtually impossible to obtain. In the absence of such performance data, the use of subjective measures was further justified. International strategic alliances are formed for a variety of goals and objectives and the accomplishment of these goals and objectives results in the satisfaction or dissatisfaction with the alliance. Thus alliance performance was measured along a number of performance dimensions. In addition to the performance categories, measures of alliance satisfaction were also obtained (see section 4.5.2). The dependent variable international strategic alliance success is evaluated in this study from the perspective of the UK firm. A UK perspective was taken because of the sheer number of international strategic alliances investigated. Geringer and Herbert (1991) have argued that collecting data from a single respondent for each alliance provides reliable and efficient information. Furthermore, within the time and financial constraints, it would have been virtually impossible to contact all international firms used in this study. For this reason, a measure of the partners satisfaction with the alliance performance from the perspective of the UK firm was included. Success of international strategic alliances was defined multidimensionally and was measured in terms of alliance performance and alliance satisfaction (see section 4.5.2 for success measures).

2.5 THEORETICAL FRAMEWORK FOR ANALYSING INTERNATIONAL STRATEGIC ALLIANCES IN THE UK

The effective management of international strategic alliances has proven to be difficult because of the problems associated with the running of strategic alliances (Anderson 1990; Parkhe 1991; Geringer and Herbert 1989; Lorange and Ross 1991). Experience with international strategic alliances has shown that they frequently face a number of problems such as conflict, poor perceived performance and inflexibility (Parkhe 1993; Geringer and Herbert 1991), poor communications, opportunism, incompatible objectives (Buckley and Casson 1988; Gugler and Dunning 1993), control and ownership arrangements (Ohmae 1989). The theoretical framework for this study is based upon the assumption that all international strategic alliances incorporate behavioural and organizational characteristics in their relationships (Mohr and Spekman 1994; Saxton 1997, Parkhe 1993; Geringer and Herbert 1989). This study seeks to assess the impact of the behavioural and organizational characteristics on international strategic alliance success. The relationship between the behavioural and organizational characteristics and success are described in the model shown in Figure 2.2. The model is based on a review of the literature, which will be discussed below. The behavioral characteristics depicted in the model are based on Mohr and Spekman's (1994) model. The control characteristics are based on three dimensions of control identified by Geringer and Herbert (1989). The relationships depicted in the model form the basis of the research propositions to be developed in the next sections. In the framework the success of international strategic alliances depends on five groups of factors:

- (i) Strategic alliance attributes, including, commitment, coordination, interdependence and trust (Mohr and Spekman 1994; Aulakh et al 1996; Kumar et al 1995).
- (ii) Communication attributes, such as the quality of information, participation and information sharing (Huber and Daft 1987; Mohr and Spekman 1994).
- (iii) Conflict (Anderson and Narus 1990; Mohr and Spekman 1994)
- (iv) Structure, which includes formalization, centralization and complexity (John 1984; Moorman et al 1993).
- (v) Control, which considers the focus of control, the extent of control and the mechanism of control (Geringer and Herbert 1989).

The following sections will review the literature to identify the behavioural and organizational variables which are most likely to impact the success of international strategic alliances.

2.5.1 Behavioural Characteristics

2.5.1.1 International Strategic Alliance Attributes

Kanter (1988) suggested that strategic partnerships are constrained by blurred boundaries in which there emerge close ties that bind the two parties. Yoshino and Rangan (1995) described alliances as firms that unite to pursue a set of agreed upon goals, share benefits and control over assigned tasks, and contribute on a continuing basis in one or more key strategic areas. Faulkner and Mcgee (1995), meanwhile, found the most important factors necessary for the development of a successful alliance are contained in the concept of a close relationship between the

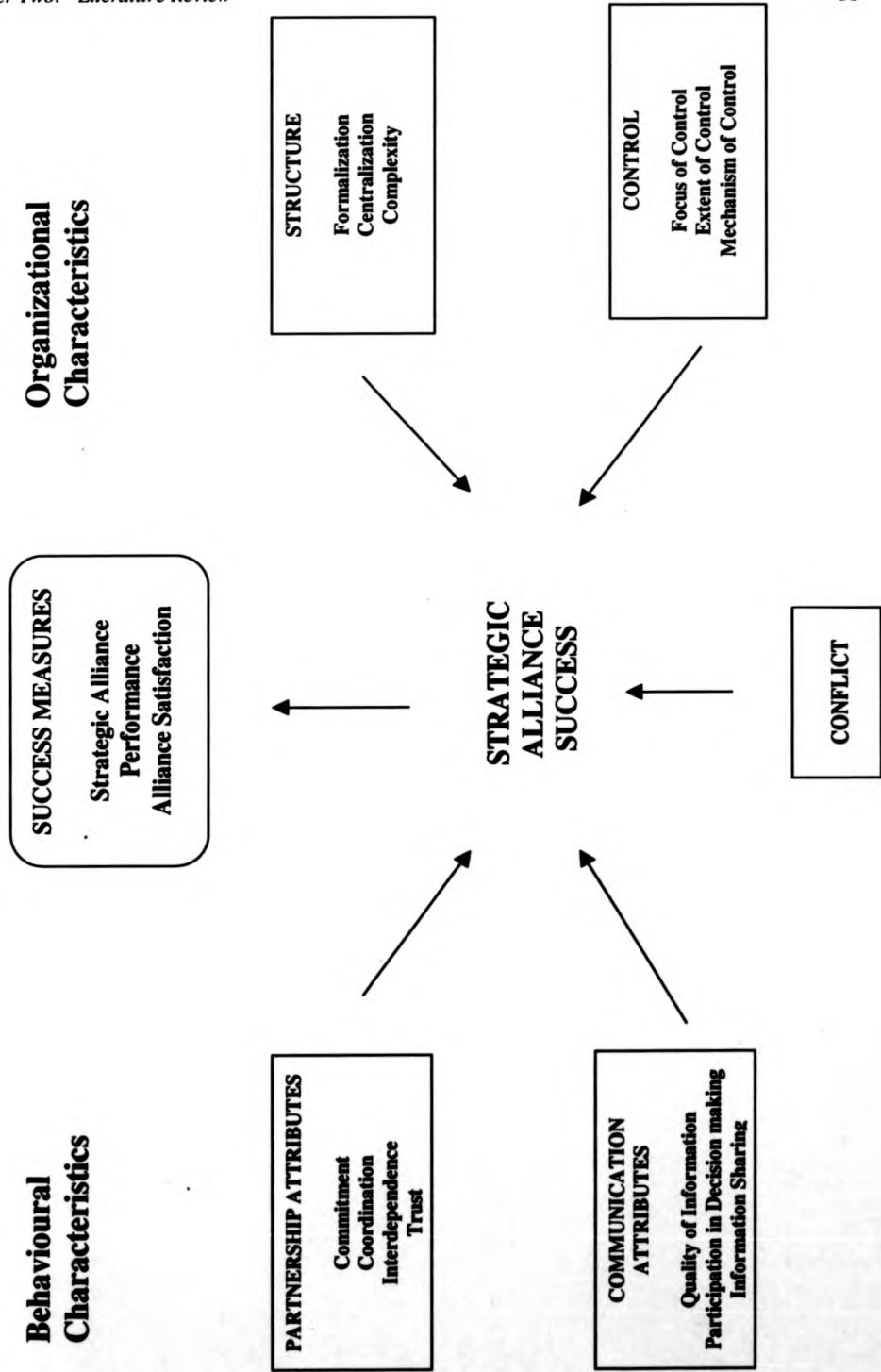


Figure 2.2. Factors Associated with International Strategic Alliance Success

partners, such that they demonstrate flexible, trusting and committed attitudes towards each other. In such relationships there exist a set of commodities that help guide the flow of information between partners, manage the depth and breadth of interaction, and capture the complex and dynamic interchange between partners. Mohr and Spekman (1994) make the assumption that the existence of partnership attributes implies that both partners acknowledge their mutual dependence and their willingness to work for the survival of the relationship and thus reducing the potential for opportunistic behaviour.

The importance of partnership attributes has been reflected in the extensive literature which has focused on commitment, coordination, interdependence and trust. (Anderson and Narus 1990; Mohr and Spekman 1994; Morgan and Hunt 1994; Geyskens et al 1996; Monckza et al 1998). These four items tend to be a repeated theme throughout the alliance literature. Theoretical contributions (Parkhe 1993) as well as empirical and case study (Mohr and Spekman 1994; Monckza et al 1998; Olson and Singsuwan 1997; Dymza 1988; Anderson and Narus 1990) research have shown the importance of these four items to alliance success.

2.5.1.1.1 Coordination

The word "coordination" has been frequently used within the strategic alliance literature as a general concept with no specific definition. Coordination has been described as the extent to which two firms are integrated within an alliance relationship (Salmond and Spekman 1986). According to Drucker (1974) coordination is critical because no firm is in complete control and because

alliances cannot be "commanded". The two firms must work together. Thus coordination involves the interaction between firms in an alliance relationship. The process of interaction has been described as a social exchange process between two firms (Thibaut and Kelley 1959; Emerson 1972). Within this exchange process the firms coordinate their activities in order to achieve mutual outcomes (Anderson and Narus 1990). The coordination of activities and resources can, therefore, lead to a better match between the firms (Hallen et al 1991).

The coordination of activities between the two firms can also lead to interdependence (Salmond and Spekman 1986). Resource dependency theory argues that firms that seek to reduce uncertainty and manage dependency by coordinating their activities will result in greater interdependence between the firms and a greater opportunity to coordinate their work (Pfeffer and Salancik 1978). Pfeffer and Salancik (1978) suggest that greater coordination can be determined by each party's desire to balance dependence and autonomy. According to Salmond and Spekman (1986) each firm sees the other's work as an extension of its own, recognizes the joint benefits of coordinating work and strives to maximize the benefits of interdependence. In this study coordination has been defined in terms of how well the partners interact with each other in order to facilitate goal attainment (Salmond and Spekman 1986; Anderson and Narus 1990).

2.5.1.1.2 Coordination and Success

There has been very little empirical investigation into how coordination between partners may impact the success of international strategic alliances. Mohr and Spekman (1994), in their study of partnerships among computer dealers and suppliers, found coordination to be a strong predictor of partnership success. They used two measures of success. These included a subjective measure "satisfaction with manufacturer support and satisfaction with sales" and an objective indicator measuring sales volume. In their study coordination was positively associated with satisfaction in terms of manufacturer support and sales. However Mohr and Spekman (1994) measured coordination with only three item scales of which one was dropped from the analysis because of a low item-to-total correlation. Furthermore their study was limited to domestic supplier-dealer relationships in the computer industry, thus limiting the generalizability of their results.

Monckza et al (1998), meanwhile investigated 84 international strategic supplier alliances located in the USA, Canada, Mexico, Europe and Australia. They measured coordination as a combined measure with trust and a single measure of coordination. Success was assessed with two subjective (*how well the alliance partners worked together and buying company's satisfaction with the alliance*) and one objective measure (*measures of cost reduction, quality, access to technology, cycle time and NPD time*). Similar to Mohr and Spekman (1994) their results reported a significant relationship between coordination and the two subjective measures of success. However like Mohr and Spekman (1994) their study was limited to supplier-dealer type relationships.

Olson and Singsuwan (1997) investigated the perceptions of Thai and American executives across a range of industries. Their measure of strategic alliance success was based on the perceptions of company executives in terms of market share, sales growth and ROI. They observed that coordination correlated with the performance measure of ROI, but was not seen to be a predictor of international strategic alliance success. They, however, did not define their measure of coordination and how it was measured. Although these studies have reported that coordination could ensure some degree of success within strategic alliances, neither study defined their concept of a coordinated international strategic alliance. Furthermore, each study has operationalized coordination in different ways. However, this limited research has shown that coordination can impact the success of strategic alliances and suggests that there is a need to identify if successful international strategic alliances are characterized by higher levels of coordination. Therefore, the following proposition is suggested:

Proposition 1: *The level of coordination between partners will be higher for successful UK international strategic alliances, compared with less successful international strategic alliances.*

2.5.1.1.3 Interdependence

Firms form international strategic alliances to manage their resource interdependencies. This perspective flows directly from an exchange paradigm which is based on the assumption that firms must develop and maintain relationships with other firms because neither are self sufficient or specialized to

produce all their inputs or consume all their outputs (Cook 1977; Pfeffer and Salancik 1978).

One approach that has been applied to interdependence within strategic alliances is the task interdependence approach (Butler and Gill 1996). This approach was conceptualized by Thomson (1967) in organizational research. Thomson (1967) assumed that all organizational units were goal interdependent, with each unit contributing to the organization and thus affecting the outcomes of all other units. However the greater the interdependence among the groups, the greater the potential for conflict. Butler and Gill (1996) used Thomson's (1967) conceptualization of interdependence in their study of international joint ventures. They extended Thomson's (1967) approach by finding that task interdependencies can be related to trust within alliances. Gill and Butler (1996) identified three types of interdependencies and found that the pattern of interdependencies will effect the development of trust between the partners in joint venture relationships: (i) within pooled interdependence in which both partners are expected to provide an output but have no direct dependence on each other, they found that direct competition will be less likely if there is no conflict which may stimulate the development of trust; (ii) on the other hand, they found that in sequential interdependence, which is the difference between the firm's dependence on its partner and the partner's dependence on the firm, both partners may come into competition with each other and risk exploitation and thus lessen the degree of trust between the partners, and (iii) reciprocal interdependence which occurs when there is mutual dependence and a balanced power between partners was found.

The majority of empirical investigations of interdependence are between dealer/supplier type relationships within the channels literature (Anderson and Weitz 1989; Anderson and Narus 1990; Buchanan 1992; Kumar et al 1995). Anderson and Weitz (1989) found that the degree of dependency has also been related to the balance of power within strategic alliances. Strategic alliances involve the sharing of power and decision-making between partners in the management of the alliance. Firms that are highly dependent upon their partners for critical resources have less autonomy and control over their partners (Anderson and Narus 1990; Gundlach and Cadotte 1994). Anderson and Weitz (1989) also found that symmetrical dependence in relationships results in greater stability and trust than relationships that are asymmetric in dependence. The symmetry of a relationship is determined by the extent to which trade partners value one another's resources. If resources are valued equally by the two parties, the relationship is symmetrical; if the resources of one party are valued more than the other party's, the relationship becomes asymmetrical (Buchanan 1992). Buchanan (1992) found that symmetrical interdependence enhances performance. Similar findings have also been reported by Kumar et al (1995).

Buckley and Casson (1988) stated that the degree of dependency within alliances can also determine the behaviour of the parties involved. High dependency between partners in the alliance relationship is more likely to encourage cooperation than opportunism, thus making both parties equally vulnerable. Thus both party's have the incentive to forbear on a reciprocal basis.

The concept of interdependence has been a crucial concept in channel research (Geyskens et al 1996). Despite its centrality and importance interdependence has been little researched in other contexts such as equity joint ventures. As indicated above different researchers have examined different aspects of interdependence. Furthermore, the channel research has focused solely on domestic relationships within the USA and the need to establish cross-cultural validity of theoretical models of marketing channel relationships is pertinent (Frazier et al 1989).

For the purpose of this study interdependence was defined as the degree of replaceability and dependency of each firm on its partner (Kumar et al 1995) with regards to investment in the relationship in terms of the resources mediated by each party (Geyskens et al 1996).

2.5.1.1.4 Interdependence and Success

The above studies have identified interdependence as a key factor in strategic alliances. Recent empirical investigations have provided strong evidence that interdependence enhances the performance of alliances (Mohr and Spekman 1994; Monckza et al 1998; Olson and Singsuwan 1997; Buchanan 1992). Mohr and Spekman (1994) measured interdependence with a two-item scale and examined the ease with which one partner could switch to a new trading partner. They observed no significant relationship between interdependence and partnership success. They realized that the non-significant relationship may have been due in part to the measure used by interdependence. Monckza et al (1998) using measures developed by Mohr and Spekman (1994) however, found interdependence to be a predictor of success for partnerships in the computer

industry. Their significant finding may have been due to the fact that Mohr and Spekman (1994) relied on only one specific measure of success related to the success of the alliance, while Monckza et al (1998) employed two perceptual measures and one objective measure of alliance performance.

Olson and Singsuwan (1997) showed that interdependence was perceived to be an important factor of strategic alliance success by both Thai and American executives. In addition, they found interdependence to be correlated with ROI. According to Buchanan (1992) symmetrically highly dependent relationships increase the performance while asymmetrically dependent relationships decreases performance. The context of his study was the relationship between a retail department store and its suppliers. Buchanan (1992) found that increasing dependence on suppliers in symmetric departments increased the buyers ability to attain the departments objectives. The preceding discussion has suggested that the successful international strategic alliances will be characterized by interdependence between partner firms. Thus the following proposition has been proposed:

Proposition 2: *The level of interdependence between partners will be higher for successful UK international strategic alliances, compared with less successful international strategic alliances.*

2.5.1.1.5 Commitment

The construct of organizational commitment has received a great deal of attention in the organizational behaviour literature where considerable focus has been given to examining the relationships between employee commitment to the organization in terms of job satisfaction (Becker 1960; Kelly 1983; Mowday et al 1982). The study of commitment has also emerged in the marketing channel literature as a critically important element for channel survival and performance (Anderson and Narus 1990; Anderson and Weitz 1992; Morgan and Hunt 1994; Kumar et al 1995; Noordewier et al 1990). Here, commitment has been defined as an implicit or explicit pledge of relational continuity between exchange partners (Dwyer et al 1987). Committed partners are willing to invest in valuable assets, demonstrating that they can be relied upon to perform essential functions in the future (Anderson and Weitz 1992). Partners demonstrate their commitment through their willingness to adopt a long-term perspective regarding their involvement in a strategic alliance to achieve valuable assets for themselves (Morgan and Hunt 1994).

In the literature there are two views of organizational commitment that are relevant to international strategic alliances (Anderson and Weitz 1992; Morgan and Hunt 1994). One view of organizational commitment emphasizes the economic costs of maintaining a relationship (Morgan and Hunt 1994). This view stems from the side-bet theory of Becker (1960). Becker (1960:33) described commitment as a disposition to engage in "consistent lines of activity" as a result of the accumulation of "side-bets" that would be lost if the activity were discontinued. In explaining commitment to the organization, the consistent line of

activity refers to maintaining membership in the organization. In contrast to these economic views of commitment, others have stressed emotional ties to the organization (Gundlach et al 1995; Anderson and Weitz 1992). This kind of commitment is called affective commitment. The most detailed account, to date, of affective commitment to the organization has been provided by Mowday et al (1982), and is characterized as having three major components: (i) a strong belief in and acceptance of the organizational goals, (ii) a willingness to exert considerable effort on behalf of the organization, (iii) a definite desire to maintain organizational membership.

Porter et al (1974), meanwhile, define commitment as the willingness of trading partners to exert effort on behalf of the relationship. This suggests that partners attempt to build a relationship that can endure unanticipated problems. Dwyer et al (1987) described commitment as a long-term orientation toward the relationship with a willingness to make short term sacrifices to realize long-term benefits from the relationship. Kiesler (1971) found that commitment as a pledge by alliance members to undertake certain actions will facilitate the attainment of the alliances strategic goals. Kumar et al (1995) concluded that affective commitment is the most effective for developing and maintaining mutually beneficial relationships between partners. Thus this study focuses on the affective component of commitment. In the present context commitment to the strategic alliance was defined in terms of each firm's identification with and involvement in the alliance relationship (Porter et al 1974).

2.5.1.1.6 Commitment and Success

Several researchers have emphasized the role of commitment to strategic alliance success (Beamish 1988; Buckley and Casson 1988; Dwyer et al 1987; Anderson and Wietz 1992; Cullen et al 1994; Lee and Beamish 1992; Mohr and Spekman 1994; Morgan and Hunt 1994; Monckza et al 1998). Beamish (1988) found a strong correlation between commitment and performance in strategic alliances, noting that most of the commitment characteristics in high-performing alliances were related to the multinational firm's willingness to invest in resources necessary for the development and success of the relationship. Similar results were found by Dwyer et al (1987). Lee (1989) also found, in his work on Korean alliances, that mutual confidence and close business relationships between local partners and Korean investors significantly influenced the level of success. According to Williamson (1975) commitment can reduce the threat of opportunism, thereby reducing transaction costs and thus the costs associated with the partnership. Buckley and Casson (1988) also noted that committed partners are likely to avoid opportunistic behaviour, thus allowing for greater exchanges between the partners that would be of mutual benefit. Mohr and Spekman (1994), in their study of supplier-dealer relationships among computer dealers in the U.S., suggested that the ability to convey a sense of commitment was the key to successful partnerships. Cullen et al (1994) investigated the antecedents of commitment in Japanese international joint ventures and found that higher economic performance resulted in higher levels of commitment between partners. Olson and Singsuwan (1997) in their study of strategic alliances found that both American and Thai executives perceived mutual commitment to be an important factor contributing to the success of the strategic alliance. They also found

commitment to be a good predictor of performance in terms of return on investment and market share. The research indicates that partners who are affectively committed to the alliance relationship will tend to perform at a higher level than those who are not committed. The literature therefore suggests the following proposition:

Proposition 3: *The level of commitment between partners will be higher for successful UK international strategic alliances, compared with less successful international strategic alliances*

2.5.1.1.7 Trust

The development of trust has been found to be a critical concept in trying to understand interpersonal relationships and group behaviour, organizations and interorganizational relationships (Zucker 1986; Mayer and Schoorman 1995). Golembiewski and Mcconkie (1975:131) stated that, "there is no single variable which so thoroughly influences interpersonal and group behaviour as does trust". Hirsch (1978) viewed trust as kind of exchange necessary for the success of economic transactions. Hosmer (1995) identifies four perspectives of trust, which draw attention to individual, interpersonal relationships, economic exchange and social structures. The first is "trust as an individual expectation about the outcome of an event". In this sense trust is the non-rational choice of a person faced with an uncertain event in which the expected loss was greater than the expected gain (Deutsch 1969). This emphasizes the vulnerability aspect of trust. The second potential basis for trust "interpersonal relationships" lies in the

"willingness of one person to increase his/her vulnerability to the actions of another person whose behaviour he or she could not control" (Zand 1972). In this view the consequences of trust are dependent upon the behaviour of other people. A third view of trust is that it is based on the expectation that parties will not behave opportunistically. In this case trust is based on the willingness of parties to cooperate with the benefits resulting from that cooperation (Williamson 1985; Hill 1990). Within an alliance context trust is therefore seen as a means of reducing transaction costs. Finally, trust is viewed as a collective attribute based upon the relationships between people in a social system such as an organization (Lewiss and Weigart 1985). In this sense trust is seen as being essentially social and normative requiring prior social relationships to exist rather than being individual and calculative. In the case of a international strategic alliance, "trust would exist if the partners can act secure in the knowledge that all members will be trying their best to fulfil their obligations contained in a prior agreement" (Gill and Butler 1996).

Trust has, therefore, emerged as a significant concept in the field of strategic alliances (Anderson and Weitz 1989; Morgan and Hunt 1994; Moorman et al 1993; Aulakh et al 1996; Monczka et al 1998). Transaction cost theory suggests that the presence of trust is a critical factor in the relational governance of strategic alliances because of problems of coordination and mutual dependency (Williamson 1985; Anderson and Narus 1990; Zaheer and Venkatraman 1995; Nooteboom et al 1997). Ouchi (1980) argues that trust has the ability to reduce transactions costs by deterring opportunistic behaviour. Madhok (1994) suggested that the presence of trust develops tolerance to short term losses in case of

opportunistic behaviour, reduces the potential for conflict and supports the belief among partners that they will be compensated by longer term benefits. Beamish and Banks (1987) found that if trust is embedded in the alliance partnership, the incentive for opportunistic behaviour is reduced and partners are more likely to take a long-term view concerning the alliance. Similarly, trust based alliance relationships are seen as a substitute for hierarchical control when ownership-based control is not strategically viable or economically feasible (Aulakh et al 1996). However, trust as a contract may be essential for the creation of a relationship, but not sufficient for its continuation. Trust has also been characterized as building and maintaining of relationships within strategic alliances (Parkhe 1993; Madhok 1994; Aulakh et al 1996). In this sense, trust is essentially dynamic and it develops over time in conjunction with the actions of the partners (Ven de Ven and Walker 1984).

This study is concerned with the behavioural aspect of building trust within the relationship. In the strategic alliance literature trust has been viewed as "behavioural trust", in which one party willingly trusts the other party and involves vulnerability and uncertainty on the part of the trustier (Zand 1972). Second, trust has been viewed as "intentional trust", in which trust results from reliability or intentional belief, confidence or expectation about an exchange partner's trustworthiness (Gambetta 1988; Mayer et al 1995; Anderson and Weitz 1989; Dwyer and Oh 1987). This view of trust has been defined as "the willingness to rely on an exchange partner in whom one has trust" (Moorman et al 1992: p.82). Similarly Anderson and Narus (1990: p.45) have focused on this confidence aspect of trust by defining it as a "firm's belief that another company

will perform actions that will result in positive outcomes for the firm as well as not take unexpected actions that result in negative outcomes". In the context of international strategic alliances this confidence element of trust is useful in maintaining an ongoing relationship, since cooperation is based on the confidence in the reliability and intentions of an exchange partners structural vulnerability (Aulakh et al 1996). Accordingly, a person must believe that a partner is trustworthy and willingly rely on that partner to have complete trust.

2.5.1.1.8 Trust and Success

Trust has been defined as an essential element for the success of international strategic alliances (Peterson and Shimada 1978; Sullivan and Peterson 1982; Madhok 1995; Spekman and Sawhney 1990; Ring and Van de Ven 1992; Badaracco 1991). Pruitt (1981) indicates that trust is highly related to a firm's desire to collaborate. Williamson (1985) states that partners that trust each other will be better able to manage stress and display greater adaptability. Badaracco (1991) suggests that when partners in an alliance trust each other, they are more inclined to grant substantial autonomy to managers, enabling them to respond more quickly to problems and opportunities and thereby raising the venture's success. Black et al (1991) suggest that trust is needed for a synergistic match, as well as for valued relationships in the long run and found the greatest obstacle to success to be a lack of trust. Buckley and Casson (1988) suggested that the higher the trust, the more efficient the international joint venture will be in transforming an input of cooperation into an output.

Several studies recognize trust to be a critical factor for successful collaboration. Anderson and Narus (1990), in their study of distributor/manufacturer partnerships, found that trust enables firms to learn that joint efforts will lead to outcomes that exceed what the firm would achieve had it acted solely in its own best interests. Madhok (1995) conducted interviews with four senior managers from different Montreal-based firms and found that trust was regarded by all the managers as a critical facilitator of joint venture relationships.

In Mohr and Spekman's (1994) study of successful partnerships trust was significantly associated with partner satisfaction in terms of profitability. They proposed that this significant relationship between trust and profitability suggested that trust was important in easing the dealer's fear of opportunistic behaviour on the part of the vendor, thus leading to greater perceived satisfaction. Aulakh et al (1996) investigated a sample of U.S. firms having distributor and licensing relationships with firms from Asia, Europe and Central/South America. They empirically examined the direct association between trust and performance, as well as contingency effects. Although their findings indicated no direct relationship between trust and performance their results support the notion that trust in international partnerships has positive implications for partnership performance when conditions exist for opportunistic behaviour. Aulakh et al (1996) have addressed the fact that their conceptualization and operationalization of trust does not capture the many facets of this concept. Furthermore, they considered only one type of partnership performance in their study (i.e. sales growth and market share).

Monckza et al (1998) used Mohr and Spekman's (1994) measure of trust and showed that trust was an important factor in strategic supplier alliances. However Monckza et al (1998) used three measures of success and trust was positively related to all three.

Therefore, it is expected that the presence of high levels of trust will be a factor of higher success for the international strategic alliances which suggests the fourth proposition of this study:

Proposition 4: *The level of trust between partners will be higher for successful UK international strategic alliances, compared with less successful international strategic alliances.*

In sum the literature cited above suggests that higher levels of commitment, coordination, interdependence and trust are positively related to the success of international strategic alliances.

2.5.1.2 Communication Attributes

Communication is a central process in organizational activities and is critical to the success of organizations (Mohr and Nevin 1990). Cummings (1984) argues that in order to realize the benefits of collaboration, effective communication is fundamental. Jain (1987) contends that because international strategic alliances involve companies of different nationalities communication problems may arise because of cultural and language barriers, different working methods and management styles. These differences and ineffective communication can lead to

“misunderstandings, incorrect strategies, and “mutual feelings of frustration” (Mohr and Nevin 1990) which may reduce the effectiveness of the alliance, and thus lead to conflict between partners (Jain 1987). This suggests that an awareness of communication processes is essential within alliances if maximum efforts are to be coordinated and directed towards the success of international strategic alliances.

Three aspects of communication behaviour were identified by Mohr and Spekman (1994) as critical to the success of partnerships and will be considered in this study: communication quality, extent of information sharing between partners , and participation in planning and goal setting.

2.5.1.2.1 Information Quality

Communication quality is perceived as a key aspect of transmitting information (Jablin et al 1987). Quality includes such aspects as the accuracy, timeliness, adequacy and credibility of information exchanged (Daft and Lengel 1986; Huber and Daft 1987). Timely, accurate and relevant information between parties in a strategic alliance may be a significant factor in determining the degree to which each partner understands each other's goals and coordinate their efforts to achieve those goals (Mohr and Spekman 1994). Meaningful and timely exchange of information may also result in a trusting relationship between firms (Anderson and Narus 1991) and thus help partner firms to realize mutual benefits by reducing dysfunctional misunderstandings (Dwyer et al 1987; Anderson and Narus 1991). The quality of the information sharing process has been investigated within the context of strategic alliances (Mohr and Spekman 1994; Olson and Singsuwan

1997; Monckza et al 1998). Mohr and Spekman (1994) developed measures for the quality of information and tested them within the context of dealer-supplier channel transactions. They suggested that timely, accurate, and relevant information is essential if the goals of the partnership are to be achieved. In their study quality of information was found to significantly predict the success of the partnership in terms of manufacturer support. Similarly Monckza et al (1998) using the same measures found quality of information to be a good predictor of the success of supplier alliances. Similar findings were also observed by Olson and Singiswan (1997) on the perceptions of Thai and American executives.

2.5.1.2.2 Information Sharing

Information is present in every part of and created by every activity of a firm (Yoshino and Rangan 1995) and refers to the extent to which critical information is communicated to one's partner (Badaracco 1991). Huber and Daft (1987) suggest that closer ties result in more frequent and more relevant information exchanges between partners. By sharing information and by being knowledgeable about each other's business, partners are able to act independently in maintaining the relationship over time. Effective information sharing increases information value for all people in the organization (Glazer 1991), is associated with increased levels of satisfaction (Schuler 1979) and is an important predictor of partnership success (Devlin and Bleackley 1988). In the channel literature manufacturers and distributors have been found to develop trust (Anderson and Narus 1990) and commitment (Anderson and Weitz 1992) through the formal and informal sharing of timely information. Salmond and Spekman (1986) also suggested that sharing

information reduces the potential for conflict resolution and mistrust within collaborative relationships. While empirical research on alliance communication is sparse (Mohr and Nevin 1990), Mohr and Spekman (1994), Monckza et al (1998) and Olson and Singsuwan (1997) have examined the sharing of information within the context of strategic alliances. Mohr and Spekman (1994) investigated the extent to which computer dealers and suppliers kept each other informed about important issues and found that information sharing was negatively related to satisfaction with profits. Monckza et al (1998) using similar measures, found that information sharing between industrial purchasing partners resulted in overall satisfaction with the alliance partnership in terms of partners working together, how flexible partners were with each other and helping each other in an emergency. Olson and Singsuwan (1997) found information sharing between Thai and American alliances to be negatively associated with market share and positively associated with sales growth.

2.5.1.2.3 Participation

Participation refers to the extent to which partners actively engage in planning and goal setting. When one partner's actions influence the ability of the other to effectively compete, the need for participation becomes necessary for defining roles and responsibilities (Anderson et al 1987). Anderson et al (1987) also suggest that decision making and goal formulation are important aspects of participation that help partnerships to succeed. Mohr and Spekman (1994) found support for the relationship between participation and alliance success for computer dealers and suppliers within the USA. Using four measures they assessed the extent to which the dealers input was required by the suppliers for

planning purposes. Mohr and Spekman (1994) found participation was significant in predicting the success of the partnership in terms of satisfaction with profits and manufacturer support. Similarly, Monckza et al (1998) found evidence to support Mohr and Spekman (1994) finding that participation is an important factor in alliance success. However they examined participation as a combined measure with information quality. Further evidence, for the relationship between participation and alliance success has been provided by Olson and Singuwan (1997). They showed that not only was participation in decision-making perceived to be an important factor in contributing to the success of the alliance by both Thai and American Executives, participation correlated with market share and ROI.

2.5.1.2.4 Communication and Success

From the above review of the literature, it is apparent that communication processes underlie most aspects of how strategic alliances function and are thus critical to alliance success. Nonetheless, studies of communication are under-represented in the empirical research literature, especially research on international alliances. Although many aspects of communication have failed to receive the attention of researchers, the comprehensive review by Mohr and Nevin (1990) concluded that the major omission in this area concerned studies of how communication relates to the overall performance of alliances. Since Mohr and Nevin's (1990) review, there have been few studies on communication in international strategic alliances. As discussed above various researchers have looked at different facets of communication, and have identified them to be critical for alliance success (Mohr and Spekman 1994; Monckza et al 1998).

In sum, higher levels of communication quality, more information sharing between partners, and more participation in planning and goal setting are positively related to the success of international strategic alliances. The following propositions have been formulated.

Proposition 5: *The quality of information between partners will be greater for successful UK international strategic alliances compared with less successful international strategic alliances.*

Proposition 6: *There will be a greater level of information sharing between partners for successful UK international strategic alliances compared with less successful international strategic alliances.*

Proposition 7: *The level of participation in planning and goal setting between partners will be higher for successful UK international strategic alliances, compared with less successful international strategic alliances.*

2.5.1.3 Conflict

Conflict has been regarded as an important feature of international strategic alliances. Conflicts are an inherent characteristic between units within a single organization and, therefore, are more likely to occur in the cooperation between

people from different organizations (Child and Faulkner 1998). Firms that engage in strategic alliances try to maintain their autonomy in an interdependent relationship, which gives rise to conflicts (Van de Ven and Walker 1984). Partners within a strategic alliance relationship have a drive for both autonomy and cooperation, which results in the coexistence of cooperative and conflictual motives within the alliance (Aldrich 1977). There are many ways in which conflicts can arise between partners. Conflicts may arise from differences in cultural values, management styles, operational methods and procedures which may jeopardize the alliance (Jain 1987). In international strategic alliances the presence of two parent firms can lead to differences between them in terms of management style, culture, communication, and operational practices which are conducive to conflict (Killing 1983; Jain 1987; Devlin and Bleackley 1988). Given that a certain amount of conflict is expected, an understanding of how such conflicts can be resolved is also important (Borys and Jemison 1989).

Cummings (1984) reports that strategic alliances are encouraged to engage in joint problem solving, so that they are able to manage the uncertain environment that they are faced with. Joint problem solving allows a mutually satisfactory solution to be reached, thereby enhancing alliance success. Partners very often attempt to persuade each other to adopt particular solutions to the conflict situation, which appear to be more constructive than the use of coercion or domination (Deutsch 1969). Domination or coercion are seen as being counterproductive and are likely to strain the fabric of the strategic alliance. In some strategic alliances conflict resolution is institutionalized, and third party arbitration is recommended (Anderson and Narus 1990). However it has been suggested that internal

resolution is more likely to lead to long-term success (Assael 1969). Other conflict resolution techniques such as smoothing over or ignoring and avoiding the issue are somewhat at odds with the norms and values advocated in more successful strategic alliances. Such techniques do not fit in with alliances in which the problems of one party become the problems affecting both parties (Mohr and Spekman 1994).

2.5.1.3.1 Conflict and Strategic Alliance Success

Conflicts between partners have been identified as a key factor in the success and failure of strategic alliances (Friedman and Beguin 1971; Killing 1983; Anderson and Narus 1990; Tilman 1990; Lane and Beamish 1990; Lewis 1990; Ding 1997). Conflicts between alliance partners can result in misunderstandings and distrust, leading to reduced cooperation and thereby deteriorating the performance of the strategic alliance (Freidman and Beguin 1971; Wright 1979; Killing 1983; Lewis 1990). Frequent disagreements in a relationship tend to cause frustration and unpleasantness, and thus result in dissatisfaction (Anderson and Narus 1984; 1990). In addition, conflict may harm accomplishment of the task of the relationship. Frequent disagreements may result in complex, time consuming decision making or in obstructive behaviours that simply block any decision-making (Killing 1983). As a result, time and resources are devoted to conflict resolution rather than activities productive for the alliance. Such situations may limit an alliances ability to cope with and to respond to changes in its environment and thus to be successful in its business. Conflicts may also arise from withholding resources that may be required by the other partner to achieve its objectives (Buckley and Casson 1988; Lane and Beamish 1990). Transaction cost

theory advocates that conflict breaks down trust and increases the potential for opportunistic behaviour, thereby resulting in economically inefficient relationships (Beamish and Banks 1987; Buckley and Casson 1988).

Some empirical studies also suggest that there is a negative relationship between conflict and alliance performance. Wright (1979) examined 25 U.S. and Canadian joint ventures in Japan and found that conflicts between partners resulted from differences between the Japanese and the Western culture, which in turn reflected differences in management style. Wright (1979) observed that conflicts such as differing objectives, differences in decision-making styles, conflicting contracts led to the deterioration of the alliance partnership. Lewis (1990) from his investigation of 40 American and Asian alliances observed that the potential for conflict resulted from cultural distance between alliance partners which adversely affected the performance of the alliance. Similarly Simiar (1984) investigated the causes of failure in 29 international joint ventures in Iran and attributed the failure of ventures to conflicting goals between partners resulting from cultural misunderstandings. In a study of Thai/Japanese IJVs Tilman (1990) found that conflict had a significant negative impact on satisfaction and performance. More recently Ding (1997) empirically investigated the relationship between conflict and performance using a sample of U.S./Chinese joint ventures and observed that conflicting issues of quality control, export and import and administration and supervision of wage and labor policies significantly hindered the performance of the joint ventures. Other studies have also suggested that conflicts were a major catalyst for the failure and termination of IJVs (Lane and Beamish 1990; Reynolds 1984).

Some studies have also shown that the manner in which conflicts are resolved has implications for the success of alliance relationships. Mohr and Spekman (1994) found successful partnerships were more likely to utilize problem solving techniques and less likely to use techniques such as smoothing over the problem, avoiding the issue and domination and harsh words. Similarly results were also noted by Monckza et al (1998) who used the same measures of conflict resolution as Mohr and Spekman (1994). Against this background the following proposition was formulated.

Proposition 8: *There will be less conflict between partners for successful UK international strategic alliances compared with less successful international strategic alliances*

2.5.2 ORGANIZATIONAL CHARACTERISTICS

2.5.2.1 Structure and Success

In a traditional sense, structure concerns the organizational design of lines of authority and communication flows (Chandler 1962; Kotler and Armstrong 1991). It is the unique way an organization provides a foundation for its people to work together to achieve goal directed activities (Dalton et al 1980). Organization structure is believed to affect the behaviour of organization members (Hall 1977). Hall (1977: 109) suggested that "structure is the setting in which power is exercised....., decisions are made....., and the organizations activities are carried out". Campbell et al (1974) suggested a useful distinction between the

“structural” and “structuring” characteristics of organizations. The structural qualities of an organization are its physical characteristics such as size, span of control, and hierarchy. Structuring characteristics refer to the policies and activities occurring within the organization that prescribe the behaviour of members in an organization. These structuring activities include centralization, formalization and complexity which have been commonly used to analyze the structure of an organization (Frederickson 1986).

- ***Centralization***

Centralization refers to the hierarchical level that has authority to make a decision (Frederickson 1986). In centralized organizations, decisions tend to be made at the top. In decentralized organizations, similar decisions would be made at a lower level (Frederickson 1986). It has been shown that increased decentralization in organizations leads to improvements in several facets of effectiveness. Research shows that decentralization has been related to performance (Lawrence and Lorsch 1976) and profitability (Negandi and Reiman 1973).

- ***Formalization***

Formalization refers to the rules, procedures and written documents such as policy manuals and job descriptions that prescribe the rights and duties of employees (Walsh and Dewar 1987). Thus formalization has significant consequences for organizational members because it specifies how, where and by whom tasks are to be performed (Frederickson 1986). Within the context of organizations,

formalization threatens professional autonomy and represents a hindrance to effectiveness (Frederickson 1986).

- **Complexity**

Complexity refers to both the number of levels in the hierarchy (vertical complexity) and the number of departments (horizontal complexity). Nadler and Tushman (1988), Lawrence and Lorsch (1976) argue that a high level of complexity makes it difficult to coordinate and control decision activities. Nadler and Tushman (1988) contend that organizations must be designed to encourage information flow in both vertical and horizontal directions to enable organizations to achieve their objectives. They state that the structure should fit the information requirements of the organization. If it does not, people will have too little information or will spend time processing information that is not vital to their tasks, thus reducing effectiveness.

While these three dimensions have received considerable attention in the organization theory literature, they have received the least amount of systematic attention within the strategic alliance literature.

Using data from dyadic relationships in marketing channels John and Reve (1982) identified centralization and formalization as the key dimensions of interorganizational relationships (John and Reve 1982). They defined formalization of channel dyad activities as "the degree to which rules and fixed procedures govern channel dyad activities". Centralization of channel decision-making was defined as "the degree to which power to make and implement

decisions within the dyadic relationship is concentrated at one vertical level" (John and Reve 1982: 518). John (1984) investigated bureaucratic structuring within a marketing channel and found that a higher level of formalization undermined positive attitudes and increased opportunism. Dwyer and Oh (1988) studied levels of bureaucratic structuring in interorganizational relationships between hardware stores in the US. They defined centralization as the need for permission, freedom to make program adaptations and force of supplier recommendations and suggestions. Formalization was measured in terms of standardized procedures, specified responsibilities, reliance on written contracts and order policy. While no significant differences were found in centralization between wholesalers and dealers, the dealers were more formalized than the wholesalers.

Another study by Provan and Skinner (1989) investigated interorganizational relationships between farm and power equipment dealers and suppliers and used formalization and centralization measures as a method of decision control used by the suppliers. They found that supplier control through rules and procedures (formalization) and through direct involvement of supplier management (centralization) over their dealers was positively related to opportunistic behaviour, which in turn has been found to decrease trust within strategic alliances (Beamish and Banks (1987). Since the literature has recognized trusting partnerships to be associated with alliance success, this would suggest that formalized and centralized relationships would result in a dissatisfied alliance.

Although there has been no academic research that has attempted to document empirically the relationship between complexity and success within the context of strategic alliances, Moorman et al (1993) have investigated organizational complexity between market research relationships. Moorman et al (1993: 85) defined organizational complexity as the "degree of formal structural differentiation within an organization". They proposed that a lower level of complexity should reduce trust in research relationships. However their results were not significant.

Despite these theoretical developments, researchers have not adequately pursued empirical analysis to address these interorganizational arrangements. Although evidence from the organization theory literature suggests a relationship between formalization, centralization and complexity and organizational performance, the lack of empirical analysis within the context of strategic alliances leads to the conclusion that the association between formalization, centralization, complexity and alliance performance has not been clearly demonstrated. The present study is concerned with the structuring characteristics of UK international strategic alliances and should go some way to filling this gap in the international strategic alliance literature. This research will extend previous work by specifically examining the relationship between formalization, centralization and complexity and the success of UK international strategic alliances. The intention here, is to offer an empirical contribution to an area within international strategic alliances in which very little conceptual and empirical progress has been made. Using John and Reve's (1982) definition of formalization and centralization cited above, this study characterizes formalization as *the extent to which rules and procedures*

govern the activities of UK international strategic alliances, and centralization as the extent to which decision-making within UK international strategic alliances are centralized. Complexity is defined as the degree of structural differentiation that govern international strategic alliances. This definition is adapted from Moorman et al (1993). Based on the foregoing discussion, the following propositions have been suggested:

Proposition 9: *Successful UK international strategic alliances will be less formalized in their activities and relationships compared to less successful international strategic alliances*

Proposition 10: *Successful UK international strategic alliances will be less centralized in their approach to managing activities and relationships compared to less successful international strategic alliances*

Proposition 11: *Successful UK international strategic alliances will have simpler levels of organization arrangements compared to less successful international strategic alliances*

2.5.2.2 Control

Control is a critical issue for the successful management and performance of international strategic alliances (Geringer and Herbert 1989). However there is a

great deal of uncertainty surrounding the meaning of control. There are few definitions of the concept but there are many inconsistencies in its operational definitions. Geringer and Herbert (1989) from their review of the literature defined control as the process by which one partner influences, to varying degrees, the behaviour and output of the other partner, through the influence of power, authority and a wide range of bureaucratic, cultural and informal mechanisms. They identified three dimensions of control in international joint ventures. These are the *focus* of control, the *mechanism* by which control is exercised and the *extent* of control exercised over a joint venture.

2.5.2.2.1 Focus of Control

The "focus" refers to the scope of activities over which a parent seeks to exercise, or not to exercise, control (Geringer 1993). A criticism of the locus of decision making perspective is its implicit suggestion that parent firms seek to control the overall joint venture, rather than targeting specific activities or processes perceived as crucial for the achievement of the joint venture's or the parent's strategic objectives (Brooke and Remmers 1978). Concern with this implicit conceptualization of control constituted one of the bases for Schaan's (1983) examination of 10 joint ventures in Mexico. Schaan (1983) defined control as "the process through which the parent company ensures that the way a joint venture is managed conforms to its own interest" and demonstrated that firms tended to seek control over specific "strategically important activities" rather than over the whole joint venture. This contention was supported by Geringer's (1988) study of 90 developed country joint ventures. He mentioned that most 50/50 equity based joint ventures in his sample did not share control over specific activities of the

joint venture (such as product design, manufacturing and day-to-day management) as equally as ownership. According to Geringer and Herbert (1989) these findings suggest that the exercise of effective control should emphasize selective control over those dimensions a parent perceives as critical, rather than attempting to control the entire range of the joint ventures activities.

2.5.2.2.2 Control Mechanisms

The second dimension of control that has been examined is the mechanisms by which parents exercise control over the joint venture (Geringer 1993). Early studies on joint ventures associated control with majority ownership or a percentage of a joint ventures equity share (Tomlinson 1970; Franko 1971). Tomlinson (1970), in his study of joint ventures in India and Pakistan, found that firms used majority ownership or equity control as a mechanism for achieving effective management control over the activities of a joint venture. However, although in the past firms have frequently relied on majority ownership to achieve effective management control of joint venture activities, such an option has not always been available, especially when constraints have been enforced by host governments (Porter and Fuller 1986). This has led joint ventures with equally divided or minority control. Thus subsequent research suggested that control is not a strict and automatic consequence of ownership, but that a variety of mechanisms may be available to firms for exercising effective control over joint ventures (Behrman 1970; Friedman and Beguin 1971).

Friedman and Beguin 1971) identified a variety of mechanisms through which control of the joint venture could be exercised, such as right of veto,

representation in management bodies and special agreements between parents such as licensing and management contracts. Firms could also rely on their technological expertise and managerial skills as a means of guaranteeing participation in the daily management of joint venture operations. Schaan (1983), in his investigation of 10 Mexican strategic alliances, identified a broad range of control mechanisms. These included the board of directors, formal agreements, the appointment of key personnel, the joint venture planning process, the reporting relationships and a variety of informal mechanisms. Schaan (1983) also categorized control into two types: *positive* control mechanisms which parent firms employed to promote certain behaviours such as staffing, participation in planning process and reporting relationships; *negative* control mechanisms, which were used by parent firms to prevent the implementation of certain activities and decisions. Positive control was exercised through informal mechanisms, staffing, and participation in the planning process and reporting relationships. In contrast, negative control was enforced through formal agreements, power of veto and board of directors. Thus the control mechanisms used by strategic alliances can have a significant effect on the alliance.

2.5.2.2.3 Extent of Control

A third dimension examined by researchers was the extent of control exercised over an international joint venture (Geringer and Herbert 1989). The "extent" of control refers to the degree of control exercised by a parent over individual alliance activities (Geringer 1993). This can range from complete control by one parent, to equal control by each parent or alliance manager, to complete control by the alliance managers (Geringer 1993). Previous studies have conceptualized

control as being dependent on the centralization or locus of the decision making process (Geringer and Herbert 1989). Dang's (1977) research on US multinational subsidiaries in the Philippines and Taiwan measured control based on the locus of decision-making, with control being defined as the degree of autonomy of a subsidiary. The study found no differences between the degree of foreign ownership and the degree of control exerted by the parent firm over the subsidiary. Dang (1977), therefore, concluded that equity ownership could not explain the degree of control in joint ventures.

Killing (1983), meanwhile, studied the division of control in a sample of thirty-seven joint ventures from developed countries. He measured the extent of control by determining how much influence each parent firm had on nine decision-making areas: pricing policy, product design, production scheduling, manufacturing process, quality control, replacements of managers, sales targets, cost budgeting and capital expenditures. For each decision, parent firms had to indicate whether the decision was made by one or the other parent, by both parents or by the joint venture. Based on these decisions Killing (1983) identified three categories of joint venture control: dominant control joint ventures, where only one of the parents played a dominant role in decision-making; shared management joint ventures, where each parent played an active role in decision-making; and independent joint ventures, where the joint ventures are autonomous. Similarly Beamish (1984) used the same scale and classified twelve joint ventures in less developed countries. He also made the distinction between dominant control exercised by the foreign parent or local partner. More recently (Geringer 1993) suggested that dominant or shared control should be determined by the skills and

resources of each partner, that are necessary to satisfy the market requirements, such as sufficient manufacturing expertise, financial acumen, relationships with government regulators. Exercising extensive control over activities and decisions can generate coordination and governance costs and limit the efficiency of the alliance (Contractor and Lorange 1988).

The extent of control exercised within international strategic alliances has also been perceived as a result of negotiation reflected by the partners relative bargaining power (Blodgett 1991; Yan and Gray 1994; Mjoen and Tallman 1997). From this perspective the extent of control obtained by each partner within a strategic alliance was related to their bargaining power. This bargaining power was interpreted as resulting from the type of resources provided and how these resources can be used to gain control. The partner having the strongest bargaining position can usually negotiate for a higher level of control (Mjoen and Tallman 1997). In a study of 69 international joint ventures, Blodgett (1991) investigated the relationship between bargaining power and equity ownership. She reported that resources such as market access and technology would provide dominant bargaining power to a parent firm and thus a majority equity position. Yan and Gray (1994), in their comparative case study of four joint ventures between partners from the USA and China, challenged Blodgett's (1991) assumption that all international joint ventures prefer one-hundred percent ownership and that ownership split is determined by negotiation representing the relative power of participating interests. Their results indicated that management control is determined by the partners at the outset of the negotiations. Their findings indicated that the type of resources committed by each partner constitutes equity

power bases that can be used as a source of bargaining power (Yan and Gray 1994).

2.5.2.2.4 Control and Success

In addition to examining the exercise of control in international strategic alliances, researchers have also tried to enhance the understanding of the relationship between control and the performance. For example, Tomlinson (1970) studied the control-performance relationship for UK international joint ventures in India and Pakistan. Tomlinson (1970) argued that dominant control was not necessary for successful joint ventures since the sharing of responsibility was more than compensated for by the other contributions made by the local partner. He found that international joint ventures were more successful when the UK parent firms had a more relaxed attitude towards control. However Tomlinson (1970) used profitability (ROI) as a measure of success and reported approximately between 50%-80% of the international joint ventures to be unsatisfactory. The validity of his findings is questionable since the use of profitability as a measure for a multi-industry study is inadequate and may have produced unreliable results (Geringer and Herbert 1989).

Janger (1980) investigated 168 international joint ventures in both developed and developing countries in which he considered the relationship between parental control and the success of the venture. He found no relationship between the control and success of an international joint venture for either shared or dominant joint ventures.

From a sample of 34 joint ventures between North America and Europe, Killing (1983) investigated the overall division of control as a predictor of joint venture success. Killing (1983) however relied on the perceptual assessment of the performance of the joint venture from the perspective of the parent firms and reported that seventy-seven percent of the dominant joint ventures were performing satisfactorily with fifteen percent of these terminated. Of the shared management ventures only forty-five percent were satisfactory and fifty percent were terminated. The independently managed ventures were satisfactory seventy-five percent of the time and none were terminated. Schaan (1983), also using the joint venture's management's assessment, investigated control as a predictor of success in ten Mexican joint ventures. While Killing's (1983) study focused on the amount of overall control, Schaan's (1983) examined control in terms of the mechanisms used. Schaan (1983) found that the most successful joint ventures were those in which managers in the parent firm achieved a fit between their criteria of success, the activities or decisions they controlled and the mechanisms they used to exercise control. Beamish (1984), using Killing's measure of control, investigated a sample of joint ventures set up by multinational companies in less-developed countries. While Beamish (1984) found that shared or local dominant ventures performed better than when the multinational was the single largest shareholder, he identified a small number of cases where dominant control was associated with unsatisfactory performance. In all of the above studies, except for Tomlinson (1970), performance was based on the assessment of managers.

More recently Bleeke and Ernst (1991), in their analysis of 49 strategic alliances, found that alliances with an even split of ownership were more likely to be

successful than those in which one partner held a majority stake. Of the 49 alliances analyzed, only fifty-one percent were successful for both parents. They further reported that most alliances, even successful ones will terminate. Likewise Blodgett (1992), based on a sample of over a 1000 international joint venture in manufacturing and retailing, found that ventures with equal ownership were more successful than dominant partner ventures.

Yan and Gray (1994) investigated the relationship between bargaining power, management control and performance and found that a shared management structure of control determined by the bargaining power of potential partners is associated with the success of a joint venture.

Although the above research has indicated that there is a relationship between control and performance, inconsistencies in the empirical findings have led to inconclusive results (Geringer and Herbert 1989). Geringer and Herbert (1989) have noted a number of limitations in the conceptual and operational definitions of control and performance. Firstly, the majority of the studies have looked at only one dimension of control. They propose that all three dimensions of control (*focus of control, mechanism of control and extent of control*) need to be examined together to get a better understanding of how control can effect the performance of international strategic alliances. Similarly, most studies have relied on a variety of objective measures of performance ranging from profitability (Tomlinson 1970) to survival (Killing 1983), duration (Kogut 1988), instability (Franko 1971). Geringer and Herbert (1989) argue that the validity of these studies may be questionable since these measures do not adequately reflect the

extent to which the international alliance has achieved its objectives. To overcome this methodological problem they suggest the use of a perceptual measure based on the satisfaction of the alliances objectives achieved. Previous researchers such as Killing (1983); Schaan (1983) and Beamish (1984) have also used these measures. Geringer and Herbert (1989) thus argue that the control-performance relationship within international joint ventures is limited and more empirical analysis of this relationship is needed.

Based on this review, the current study suggests the following propositions:

Proposition 12: *UK international strategic alliances that seek to focus their influence over particular alliance activities, rather than control all activities will be more successful*

Proposition 13: *UK International strategic alliance partners that use a variety of control mechanisms to monitor alliance activities will be more successful.*

Proposition 14: *Successful UK international strategic alliances are those in which the management of the alliance is shared compared to less successful international strategic alliances*

2.6 SUMMARY

This chapter has provided a review of the relevant literature in the field of international strategic alliances and has discussed the theoretical background for the current study. The research model within which the research objectives are investigated integrates the behavioural and organizational characteristics that may impact the success of international strategic alliances. These include, partnership attributes, communication attributes, conflict, structure and control. In terms of the behavioural factors impacting the success of UK international strategic alliances, the focus has been on the level of commitment, coordination, trust and interdependence between partners in alliance relationships as well as the communication behaviour and the degree and resolution of conflicts. It has been determined that higher levels of commitment, coordination, trust and interdependence between UK firms and their international partners will result in higher success for these international alliances. Likewise, greater levels of communication combined with lower levels of conflict will also result in more successful international alliances. The examination of the organizational characteristics that may impact the success of international alliances suggested that structure and control may be important determinants of international strategic alliance success.

Several researchers have attempted to measure the success of international strategic alliances. However the diversity of definitions and measurement criteria used have created some confusion. The chapter analyzed the literature on the

measurement of strategic alliance success in order to determine the most appropriate measure to use in this study. Relationships between various performance criteria and strategic alliance success were also investigated.

While the literature has addressed the importance of the behavioural and organizational characteristics on the success of international strategic alliances, there are very clear gaps in our understanding of these characteristics in relation to international alliance success especially in the case of UK international alliances. By addressing the propositions, the current study will make a valuable contribution to the growing body of literature on international strategic alliances. The literature review also revealed that there is little agreement among researchers as to the operationalization of both the behavioural and organizational measures and the success measures. Clearly more empirical evidence is needed to develop a better understanding of what characteristics determine success and the meaning of success. The current study will attempt to further this understanding through the use of improved operational definitions and measures.

CHAPTER THREE

DATABASE DEVELOPMENT ON UK INTERNATIONAL STRATEGIC ALLIANCES

3.1 INTRODUCTION

This chapter presents the level of international strategic alliance activity being undertaken by UK firms within Europe, the USA and Japan for the period 1988 to 1995. The chapter will review the level of activity with that observed by previous researchers (e.g. Hergert and Morris, 1988 and Glaister and Buckley, 1994; 1998) as well as discussing the database constructed by the present researcher. It will show that, although the number of international strategic alliances entered into by UK firms has increased significantly since the 1970s, there are signs that the peak may have been reached. First, the research design of the database will be presented. Second an analysis of the patterns of activity of UK international strategic alliances will be presented.

3.2 RESEARCH DESIGN

3.2.1 Database Construction

International strategic alliances have become an important phenomenon in international business and are perceived as increasing in number and strategic importance (Hergert and Morris 1988; Harrigan 1988; Anderson 1990). However despite the increased interest in strategic alliances there is a lack of systematic data available from official sources on the incidence of UK international strategic alliances (Hergert and Morris 1988; Glaister and Buckley 1994; 1998). To address this need a database was constructed to determine the overall pattern, trend and characteristics of UK international strategic alliances and to identify the companies for the later stage of this research.

Glaister and Buckley (1994) were the first researchers to develop a comprehensive database of the international joint venture activities of British firms. Their database was compiled over the period 1980 to 1989. More recently Glaister et al (1998) have extended the time frame of their previous research. However, their approach is different to their initial study which means that a direct comparison of alliance activity over time was not possible. By using only the Financial Times Mergers and Acquisitions File (FTM&A) for the period 1990 to 1996 their more recent study does not cover *all likely* incidents of international joint ventures or strategic alliances formed between British companies and their triad partners. The FTM&A is an on-line database providing information on international bid activity, mainly mergers and acquisitions, share swaps, buyouts and buy-ins, including some information on joint ventures. It is important to

note that the FTM&A will have a bias towards mergers and acquisitions and the full data available on the total number of strategic alliances formed will not have been included for that period. The authors themselves acknowledge 'the FTM&A file is biased towards equity joint ventures because the establishment of a new firm by international partner companies is frequently considered to be more newsworthy than contractual agreements to co-operate' (Glaister et al 1998: 171). The use of such a restricted database has resulted in significantly smaller numbers of international joint ventures and strategic alliance's which goes against Glaister and Buckley's (1994) own observation that there is an increasing trend in the formation of international joint ventures. This increasing trend has also been observed by other researchers (e.g. Gomes-Casseres 1996). The sudden drop in international joint venture activity observed by Glaister et al (1998) seems, in reality, to be unlikely and, therefore, misleading. Furthermore, Glaister and Buckley (1998) consider partners from Canada as well as the USA, grouped together as North America. Therefore their 1998 study is not considered to be an update of their earlier work into UK international alliance activity for the period 1990 to 1996.

The database for this study comprises international strategic alliances formed between 1988 to 1995, as reported in the financial press, and builds on Glaister and Buckley's (1994) analysis of UK international joint venture formation over the 1980s. Glaister and Buckley's (1994) concept of an international joint venture includes both equity and non-equity joint ventures, excluding cooperative agreements such as franchising, licensing. However they do not state whether mergers and acquisitions are included or excluded in the context of their study. In the context of the current study the term international

strategic alliance is used to include both equity and non-equity joint ventures (see section 2.2.1 for a discussion on defining an international strategic alliance) and excludes licensing agreements, franchising and mergers and acquisitions.

The first part of this research was, therefore, to collect information on equity and non-equity partnership formations across a range of industries between UK firms and their partners in Western Europe, USA and Japan. There is a well established precedent for researchers to compile their own database in this way (e.g. Hergert and Morris 1988; Osborn and Baughn 1987; Ghemawat et al 1986; Glaister and Buckley 1994; 1998). The period between 1979 and 1989 saw a wave of extensive research because there was an explosive growth in the formation of international strategic alliances by multinational firms (Hergert and Morris 1988; Gomes-Casseres 1989). For the purposes of this study data was collected from the Financial Times and the Economist publications in full text on the CD Rom Network at the Central Campus Library of the University of Warwick. The time period 1988-1995 was selected for a number of reasons: Firstly data on the CD Rom Network was only available from 1988 onwards, which would have required to go through the Financial Times newspapers individually. Secondly Glaister and Buckley (1994) would not give access to their database. This meant that it was only feasible to gather data on UK international alliances after 1988. Thirdly it was felt that because of the nature of the data required alliances formed prior to 1988 would have been too old to consider, with many possibly not even in existence. Lastly 1995 was used because any alliances after that period would be too new and performance data would be difficult to ascertain. A strategic alliance was recorded, if it was announced as a joint venture,

alliance, cooperative agreement, collaborative agreement, consortia and other interfirm cooperations (e.g. marketing arrangement, manufacturing arrangement, shared distribution service). Information was collected on the date the alliance was cited in the press, the name of the UK firm, the name of the international alliance partner, the country of origin of the partner, the form the alliance took (e.g. joint venture, equity participation, joint agreement or consortium), the industry sector in which the alliance was formed and the motive of the alliance. This research is, therefore similar in design to previous work in this area (Hergert and Morris 1988; Glaister and Buckley 1994).

3.2.2 Limitations of Research Design

The Economist and Financial Times were used as the sources of data collection as they are considered to be reputable, international publications (Hergert and Morris 1988). The methodology assumes that the information obtained from these sources is representative of the international British alliances formed for the period 1988 to 1995. However, as other researchers have acknowledged, there is likely to be a bias in the data as only well known firms and alliance activities are likely to be reported in the press. Furthermore, as the published information is likely to be based on press releases issued by the firms there is potential for bias in the motives for forming the alliance (Hergert and Morris 1988; Glaister and Buckley 1994). However, given the lack of official sources of international strategic alliance activity, the approach adopted is considered to be feasible (Glaister and Buckley 1994). Furthermore, given that the research is concentrating on the alliance activity of British companies and that both the Economist and Financial Times are

established British publications there is a greater chance that a high proportion of the international partnerships formed by UK companies have been included.

3.2.3 Empirical Analysis of International Strategic Alliance Activity

The dataset of international strategic alliances was entered into the Access database software. The data were then analysed using descriptive statistics and the chi-square test of independence using the SPSS-PC statistical package. The descriptive analysis identified the patterns observed in the formation of UK international strategic alliances. The chi-test of independence is designed to test the association between two variables for significance. The chi-square tests were conducted to examine the association between the observed patterns of UK international strategic alliances. The results of the database are presented according to the type of alliance, the industry sector, the regional distribution, and the purpose of the alliance as recorded in the financial press.

3.3 PATTERNS OF INTERNATIONAL STRATEGIC ALLIANCE ACTIVITY

3.3.1 Trends in UK International Strategic Alliances

A total of 778 international strategic alliances between UK and European, US and Japanese firms across 17 industries were identified. As Figure 3.1 shows the level of alliance activity has remained relatively stable over the period under study. This suggests that the level of alliance activity has reached its peak and that the big increases in international partnerships observed in the 1970s and 1980s (e.g. Hergert and Morris,

1988; Glaister and Buckley, 1994) have settled down. However, when the level of activity across the three regions is compared it can be seen that the number of alliances formed between British firms and their European partners peaked in 1989. This may be around the time when many British companies were actively preparing for the introduction of the Single European Market in 1992. Interestingly the number of alliances with US firms has also seen a steady increase since 1989. This may also be attributed to the imminent introduction of the Single European Market as many Americans feared that 1992 would create a kind of 'fortress Europe' with strong protectionist measures to keep out foreign competitors (Gogel and Larreche 1989). Alliances with Japanese firms appear to fluctuate, but the overall numbers remain relatively stable.

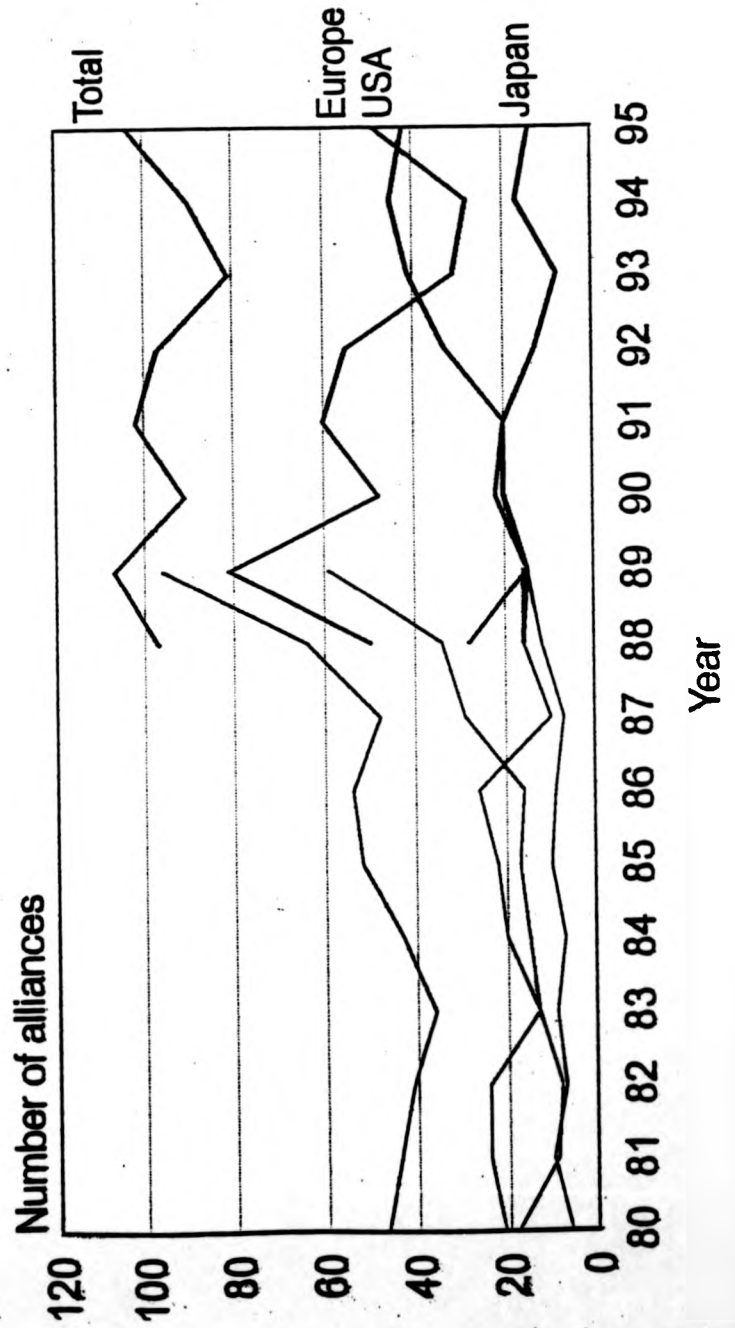
From the total of 778 international strategic alliances reported during the 1988-1995 period, 51% of all alliances took place between British and other European firms (see Table 3.1).

Table 3.1: International Strategic Alliance Formation: 1988-1995

Region	1988	1989	1990	1991	1992	1993	1994	1995	Total	
									No	%
Western Europe	50	84	46	61	53	31	25	48	398	51.2
USA	28	13	21	21	31	40	46	42	242	31.1
Japan	16	14	23	19	9	5	16	11	113	14.5
Other*	4	7	1	3	2	3	2	3	25	3.2
Total	98	118	91	104	95	79	89	104	778	100.0

*Other: Alliances formed with partner's from more than one region i.e. consortia

Figure 1: Patterns of international strategic alliance activity 1980 - 1995



This compared with just over 30% of alliances being formed with American partners and less than 15% of all alliances with Japanese organisations. The remaining 3.2% were consortia formed between the Triad partners from more than one country. The lower levels of partnerships with Japanese firms may be a reflection of the difficulty faced by foreign firms in establishing a stronghold in the Japanese market. Perhaps not surprisingly France and Germany represent the main European partners for British firms entering into strategic alliances. Of those formed with European partners 26% were with French firms and nearly 20% with German organisations. This is probably a reflection of the fact that France and Germany are the two largest markets in Europe and also ones in which customers appear to display high levels of loyalty to domestic firms (Turnbull and Cunningham, 1981).

It is also interesting to compare the general level of alliance activity in the 1990s with that observed by Hergert and Morris (1988) and Glaister and Buckley (1994) in the 1970s and 1980s. From 1979-1985 Hergert and Morris (1988) observed approximately 148 agreements between UK firms and their European, Japanese and American partners. Put simply this suggests that, on average, 25 alliances were formed a year. Glaister and Buckley (1994), meanwhile, recorded a total of 520 joint ventures over a ten year period from 1980 to 1989 which represents an average of 52 partnerships a year. This study shows that the number of international strategic alliances entered into by British companies has increased by almost 300% compared with Hergert and Morris (1988) and nearly 90% compared with Glaister and Buckley (1994) with 778 alliances formed between 1988 and 1995 - an average of 97 a year. Although there is clear evidence that the number of international partnerships being formed is still increasing there are signs that there is a slow down in activity.

There is a clear pattern of growth and decline in alliance formation across the three regions over the period (see Table 3.2). For Western Europe and Japan the incidence of alliance formation was higher during the first four years compared with the last four years. In the case of the USA, more alliances were formed in the latter part of the period. This is in agreement with Glaister and Buckley (1994) who observed a downward trend with the number of joint ventures being formed with firms from the USA in the latter part of the 1980s. To show that the incidence of international strategic alliances has changed over the period 1988 to 1995, the number of alliances reported in the first four years was compared with the number reported in the last four years in terms of the region of the partner. The chi-square test of independence was used to determine whether significant differences existed. The chi-square analysis revealed that the formation of alliances across the three regions has changed over the period studied ($\chi^2 = 90.1, p = 0.000$). Table 3.2. presents the results for the time period of the strategic alliance (first or last four years) and the region of the partner firm. The percentage of alliances was higher for the first four years than for the last four years. This was possibly due to the highest number of strategic alliances being formed in 1989 and 1991. As previously stated, many UK firms were preparing for the Single European market in 1992. The competitive pressures accompanying the Single European Market may have created a competitive climate for many UK firms to form international strategic alliances. The decrease of alliances in the second half may be explained by the completion of the European Single Market. Kay (1989) asserted that many European firms began to shift their attention towards mergers and acquisitions away from alliances at this time. However in the case of the USA, the trend towards strategic alliances increased in the second half (last four years) as stated previously.

Table 3.2. Classification for Total Number of International Strategic Alliances Formed

Time Period	USA	Japan	Europe	Other	Total
First Four Years	83	72	241	15	411
	10.7%	9.3%	31.0%	1.9%	52.8%
Last Four Years	159	41	157	10	367
	20.4%	5.3%	20.2%	1.3%	47.2%

Chi-Square = 90.1; d.f. = 21; p = 0.000

3.3.2 Types of International Strategic Alliances

In keeping with the findings of other researchers the majority of alliances in this database are formed between two partners with only just fewer than 10 % of agreements recorded being between three or more partners. Taking the type of alliance formed into consideration Table 3.3 shows that over half of all international partnerships between British and foreign firms are joint ventures with just over 22% entering into joint agreements and under 16% opting for equity participation.

Table 3.3. Types of International Strategic Alliances Formed: 1988-1995

Alliance Form	Frequency	% Total
Contractual Agreement	175	22.5
Joint venture	406	52.2
Equity Participation	122	15.7
Consortium	75	9.6

Taking the different regions into account Table 3.4 shows that joint ventures are the most common form of international strategic alliance in all three areas being studied. The overall preference for some sort of equity stake would appear to support the trend observed by Glaister and Buckley (1994). However, over two thirds of all international

alliances formed by British firms between 1988 and 1995 involve some kind of equity stake which is a marked increase on the figure of 55.9% of equity joint ventures recorded by Glaister and Buckley (1994). Interestingly more British firms enter into contractual agreements with US and Japanese companies than with European partners. This may be because such agreements offer lower risk options. The purpose for forming the alliance may also play a role that is addressed later in the chapter.

Table 3.4 : Type of International Strategic Alliance formed by Region 1988 - 1995

Region	Contractual Agreement	Joint Venture	Equity Participation	Consortium
Western Europe	19.3%	53.0%	21.9%	5.8%
USA	28.5%	56.2%	11.2%	4.1%
Japan	27.4%	59.3%	10.6%	2.7%

Note: This table excludes consortia formed by British firms with partners from more than one region

To test the view that more equity type strategic alliances compared to non equity alliances are formed in all of the three regions, a chi-square test of independence was conducted. The results in Table 3.5 indicated that all three regions preferred equity joint ventures to non equity ventures ($X = 229.5$; $P = 0.000$). The significant difference indicates that equity joint ventures are more likely to be formed than non equity joint ventures in the three regions. It appears, therefore that a higher proportion of equity joint ventures are formed in all three regions.

Table 3.5. Classification for Types of International Strategic Alliances

Country	Equity Type	Non Equity Type	Other	Total
USA	163 (21.0%)	69 (8.9%)	10 (1.3%)	242 (31.1%)
Japan	79 (10.2%)	31 (4.0%)	3 (0.4%)	113 (14.5%)
Western Europe	284 (36.5%)	75 (9.6%)	39 (5.0%)	398 (51.2%)
Total	528 (67.9%)	175 (22.5%)	75 (9.6%)	753 (100.0%)

Note: This table does not include consortia formed by British firms with partners from more than one region (Chi-Square = 229.5; d.f. = 9; P = 0.000)

The type of alliance by industry groupings is shown in Table 3.6. In Table 3.6 the joint venture category includes both joint venture and equity participation. There appears to be a greater preference for joint ventures in all of the industry groups. This may be the case because a higher number of joint ventures were recorded than contractual agreements. A chi-square test of independence was conducted. The test was conducted using the broad industry groupings of Group 1 manufacturing, Group 2 manufacturing and Tertiary because thirteen of the cells in Table 3.6 contained less than five observations. These classifications are based on Glaister and Buckley's (1994) definitions of their industry groupings. They classified group 1 as including industries such as food and drink, metals and minerals, energy, construction and chemicals. Group 2 was classified as including pharmaceuticals, computers, telecommunications, electrical, automobiles, aerospace and other manufacturing. Group 2 was distinguished from group 1 in terms of more sophisticated technology being manifested in the products and processes of group 2 manufacturing. The tertiary group consisted of transport, distribution, financial services and other services.

Table 3.6: Type of International Strategic Alliance by Industry Groups

Industry	Joint Venture		Contractual Agreement		Consortium		Total No
	No	%	No	%	No	%	
Aerospace	21	51.2	8	19.5	12	29.3	41
Automotive	33	84.6	6	15.4	0	0	39
Business and Information Services	12	44.4	13	48.1	2	7.4	27
Chemical	31	75.6	4	9.8	6	14.6	41
Engineering	47	79.7	10	16.9	2	3.4	59
Financial Services	73	65.2	30	26.8	9	8.0	112
Food and Drink	37	75.5	11	22.4	1	2.0	49
Heavy Industry	35	79.5	2	4.5	7	15.9	44
Leisure and Entertainment	31	75.6	4	9.8	6	14.6	41
Pharmaceutical	27	50.9	25	47.2	1	1.9	53
Property and Construction	44	63.8	18	26.1	7	10.1	69
Retailing	18	78.3	3	13.0	2	8.7	23
Computing	34	63.0	16	29.6	4	7.4	54
Telecommunication	26	55.3	9	19.1	12	25.5	47
Transport	10	45.5	8	36.4	4	18.2	22
Utilities	17	94.4	1	5.6	0	0	18
Other	32	82.1	7	17.9	0	0	39
Total	528		175		75		778

The test revealed no association between the industry and type of the alliance, $X = 7.66$; $P=0.10$ (see Table 3.7). No one industry was significantly more likely to enter into equity joint ventures than contractual agreements. The number of consortia were also equally formed in all three industry groupings.

Table 3.7 Preference for Equity Joint Ventures in Industry Groupings

Industry Grouping	Equity Joint Ventures	Contractual Agreements	Consortia	Total
Group 1 Manufacturing	163 74.1%	36 16.4%	21 9.5%	220 28.3%
Group 2 Manufacturing	188 63.9%	75 25.5%	31 10.5%	294
Tertiary	177 67.0%	64 24.2%	23 8.7%	264
Total	528 67.9%	175 22.5%	75 9.6%	778 100.0%

(Chi-Square = 7.66; d.f. = 4; P = 0.10)

The type of alliance by purpose is shown in Table 3.8. Equity joint ventures dominate in marketing and non-marketing related alliances as well as in service provision. This suggests that there may be a preference for equity joint ventures over contractual agreements for UK firms when forming international strategic alliances regardless of the purpose. The chi-test of independence found a significant association between the type of alliance chosen with the purpose of the alliance ($X = 15.40$; $P = 0.02$). The test indicated that there is a greater preference for equity joint ventures compared to contractual agreements in marketing and non-marketing related alliances as well as in the service provision.

Table 3.8: Type of International Strategic Alliance by Purpose

Purpose	50:50 Joint Venture	Contractual Agreement	Consortium	Total
Marketing related	292	110	34	436
Non-marketing related	119	31	27	177
Service provision	99	32	10	141
Other	18	2	4	24
Total	528	175	75	778

(Chi-Square = 15.40; d.f. = 6; P = 0.02)

Joint venture category also includes equity participation ventures

3.3.3 International Strategic Alliance Activity by Industry Sector

Seventeen different industries were represented in the database. The total number of alliances that represent these seventeen industries observed by Glaister and Buckley (1994) are 441. However their total number of alliances observed across all industries in their database constituted 520. Thus 79 of their observations are not represented in this database because some of their industry classifications were different to ones used in this study. As Table 3.9 shows the largest number of alliance in any one industry were recorded in the financial services sector (14.4%). This is an industry sector which did not feature in Hergert and Morris's (1988) research, but which also represented the highest number of joint ventures in Glaister and Buckley's (1994) database. This observation is perhaps not too surprising given Britain's strength in financial services with London being one of the major financial centers in the world. A further reason for this high number of alliances in this sector could be the deregulation in financial services, largely as a result of the Single European Market, which has encouraged cross-border collaboration. This factor may explain why Glaister and Buckley (1994) and this database recorded higher numbers of international alliances in financial services at the end of the 1980s and the start of the 1990s than at any other time.

As Table 3.9 shows, after the financial services sector, the level of international strategic alliance activity in other industries is much lower with no other sector recording above 10% of the total number of partnerships formed. Industries, which in previous studies, were key participants in international partnerships are now less active. Motor vehicles, for example, which accounted for nearly a quarter of Hergert and Morris's (1988) alliances only represented 5% of British firms' alliance activity between 1988 and 1995.

This may be because the number of vehicle manufacturers in the UK is now very small. It should be noted that the number of alliances observed in the automotive sector in the current study are generally accounted for by component manufacturers. Aerospace is another industry in which the number of alliances has decreased, perhaps as governments look to divert funds away from their defense budgets. It is also an industry characterized by consortia, therefore the number of actual alliances is smaller - i.e. it would be bigger if all the bilateral partnerships were counted.

By comparison increases in international alliance activity have been recorded in the pharmaceutical, food and drinks, property and construction and transport sectors. For British companies the pharmaceutical industry is the third most likely sector in which international strategic alliances are found. This is probably because of the high costs and risks associated with developing and testing new drugs - one of the classic reasons for entering an alliance in the first place (Contractor and Lorange 1988; Hennart 1988).

Furthermore, between 1988 and 1995, new industries previously, not recorded as separate sectors by Glaister and Buckley (1994) include utilities and retailing. One explanation for the increased level of international alliances activity in utilities is the fact that there has been a high level of privatization in this sector which allows such organisations to enter into international partnerships previously not permitted under state ownership. Retailers appear to also be engaging in more partnership activities as well-known British supermarkets seek to expand overseas (Table 3.9). A higher number of alliances have also been recorded the construction and property services in this database compared to Glaister and Buckley (1994). However Glaister and Buckley (1994) does not indicate whether property was included in their classification.

Table 3.9: Strategic Alliance formation by Industry: 1988-1995

Industry	1988	1989	1990	1991	1992	1993	1994	1995	Total	% of total	Glaister & Buckley Number of Alliances
Aerospace	6	7	7	5	3	4	1	8	41	5.3	56
Automotive	6	4	2	7	3	2	4	11	39	5.0	38
Business & Information Systems	3	2	1	0	1	2	6	12	27	3.5	-
Chemical	6	8	3	7	7	6	1	3	41	5.3	27
Engineering	9	14	6	10	6	3	4	7	59	7.6	67
Financial Services	15	22	23	17	11	4	9	11	112	14.4	71
Food & Drink	7	9	3	11	9	4	3	3	49	6.3	18
Heavy Industry	2	3	5	10	11	8	4	1	44	5.6	-
Leisure & Entertainment	3	0	3	4	8	8	11	4	41	5.3	-
Pharmaceutical	8	2	1	3	3	10	15	11	53	6.8	17
Property & Construction	7	18	13	10	9	5	3	4	69	8.9	18
Retailing	2	3	3	4	1	2	5	3	23	3.0	-
Computing	5	10	9	2	9	3	10	6	54	6.9	21
Telecommunication	8	3	4	5	7	6	4	10	47	6.0	59
Transport	4	1	1	2	3	4	4	4	22	2.8	11
Utilities	2	8	2	1	2	2	1	0	18	2.3	-
Other	5	4	5	6	3	6	4	6	39	5.0	38
Total	98	118	91	104	95	79	89	104	778	-	441

For the majority of the industries a clear pattern of growth and decline in international strategic alliance formation over the period 1988-1995 exists. In five of the cases alliances are higher for the first four years compared to the last four years: Business and information services, leisure and entertainment; pharmaceutical, retailing and transport. However in five other cases the number of alliances is lower for the first four years compared to the last four years: Engineering, financial services, food and drink, property and construction, and utilities. The chi-square test of independence (see Table 3.10) has indicated that the incidence of alliances across the various industry groupings is different for the first four years (1988-1991) compared to the last four years (1992-1995) $X = 9.03$; $P = 0.01$. A higher number of alliances for group 1 manufacturing were formed in the first four years (61.4%) compared to the last four years (38.6%). For group 2 manufacturing the number of alliances formed was greater for the last four years (51.0%) than the first four years (49%). For this test, the industries were reclassified in to three broad groups:

Group 1 Manufacturing:

Aerospace; automotive; engineering; pharmaceutical; computing; telecommunications.

Group 2 Manufacturing:

Chemical; food and drink; heavy industry; property and construction; utility.

Tertiary:

Business and information services; financial services; leisure and entertainment; retailing; transport; other.

These classifications are based on Glaister and Buckley's (1994; 1998) definitions of the industry groupings (see section 3.3.2. for an explanation). Strategic alliance formation by these broad industry groupings are shown in Table 3.10. Clearly care has to be taken in comparing databases as different researchers use a variety of industry categories and may

classify individual alliances into different industries. The trends are, nevertheless, interesting.

Table 3.10: International Strategic Alliance - Broad Industry Grouping by Time Period

Broad Industry Grouping	Time Period 1988-1991		Time Period 1992-1995		Total
	No	%	No	%	
Group 1 Manufacturing	135	61.4	85	38.6	220
Group 2 Manufacturing	144	49.0	150	51.0	294
Tertiary	132	50.0	132	50.0	264
Total	411	52.8	367	47.2	778

(Chi-Square = 9.03; d.f. = 2; P = 0.01)

There are also some interesting differences in terms of the countries with which different industry sectors prefer to develop alliances (see Table 3.11). Given the level of activity in the financial services sector it is not surprising that this industry accounts for the highest number of alliances between British and European and Japanese firms.

More alliances, however, with US partners were formed in the pharmaceuticals industry, which is probably a reflection of the US strength in this sector. Two other factors may contribute to this phenomenon which is the size of both the European and American markets and the cost of the research and development of new drugs. In order to ensure commercial success pharmaceutical companies need to ensure that they can obtain the maximum sales levels possible. Furthermore, there is a recognition that in order to be successful new drugs need to obtain the necessary regulatory approval in the USA.

Table 3.11. International Strategic Alliance Formation by Industry and Country 1988 - 1995

Industry	Western Europe		USA		Japan		Other		Total
	No	%	No	%	No	%	No	%	
Aerospace	28	7.0	10	4.1	1	0.9	2	8.0	41
Automotive	18	4.5	6	2.5	15	13.3	0	0	39
Business and Information Services	9	2.3	15	6.2	2	1.8	1	4.0	27
Chemical	28	7.0	5	2.1	5	4.4	3	7.3	41
Engineering	38	9.5	11	4.5	9	8.0	1	4.0	59
Financial Services	65	16.3	26	10.7	21	18.6	0	0	112
Food and Drink	31	7.8	14	5.8	3	2.7	1	4.0	49
Heavy Industry	20	5.0	22	9.1	1	0.9	1	4.0	44
Leisure and Entertainment	8	2.0	25	10.3	6	5.3	2	8.0	41
Pharmaceutical	13	3.3	31	12.8	8	7.1	1	4.0	53
Property and Construction	44	11.1	12	5.0	11	9.7	2	8.0	69
Retailing	9	2.3	6	2.5	8	7.1	0	0	23
Computing	23	5.8	19	7.9	10	8.8	2	8.9	54
Telecommunications	19	4.8	18	7.4	2	1.8	8	32.0	47
Transport	9	2.3	10	4.1	2	1.8	1	4.0	22
Utilities	12	3.0	6	2.5	0	0	0	0	18
Other	24	6.0	6	2.5	9	8.0	0	0	39
Total	242	31.1	113	14.5	398	51.2	25	3.2	778

Within Europe property and construction is the second most common industry in which international alliances are found. Most of these partnerships were formed in the late 1980s and early 1990s perhaps in response to the opening up of Eastern Europe and the need for much new construction work especially in eastern Germany.

In alliances with Japanese firms the second most important industry was automotive. This probably follows the setting up of car plants in the UK by firms such as Nissan, Honda and Toyota as component manufacturers team up with each other to supply the new production facilities. It would appear from the above discussion, that there is a strong

association between particular industry groups and the region of the partner. This observation was tested in terms of the broad industry groupings (see Table 3.12). The chi-square test of independence showed a difference ($X = 20.88$; $P=0.002$). Therefore, there is an association between the industry of the strategic alliance and the region of the partner firm (see Table 3.12).

Table 3.12. Association between broad Industry Groupings and the Region

Industry Grouping	USA	Japan	Western Europe	Other	Total
Group 1 Manufacturing	57	20	136	7	220
Group 2 Manufacturing	95	46	139	14	294
Tertiary	90	47	123	4	264
Total	242	113	398	25	778

Chi-Square = 20.88; df = 6; P = 0.002

3.3.4 Purpose of the International Strategic Alliance

As Glaister and Buckley (1994) note it is very difficult to assess the actual motives for the formation of an alliance. Therefore, details were recorded, where possible, on the purpose of the alliance as stated in the press. Of the 754 alliances where a purpose could be determined from the press cutting 28.5% of alliances were formed specifically for marketing purposes (see Table 3.13). This compares with 13.7% observed by Glaister and Buckley (1994). However, if all of the reasons with marketing or market development objectives are examined it can be seen that 57.8% of all international strategic alliances formed by British firms between 1988 and 1995 were for marketing-related purposes (see Table 3.14). This suggests that in the late 1980s and early 1990s co-

operation in marketing and market development are more important than R & D or manufacturing collaboration. Less than 10% of the international strategic alliances formed between 1988 and 1995 were for R & D purposes. This is a very different picture to that obtained from Hergert and Morris's (1988) database in which only 15.8% of alliances were formed for marketing purposes.

Table 3.13 : International Strategic Alliance Formation by Purpose 1988 - 1995

Purpose	Number of Alliances	% of Alliances
R and D	71	9.4
Development and Production	48	6.4
Production	58	7.7
Development and Marketing	18	2.4
Production and Marketing	17	2.2
Marketing	215	28.5%
Market Development	186	24.7
Service Provision	141	18.7

There are, however, many explanations as to why fewer British firms are entering R&D or manufacturing agreements. Given that it is well-known that as many as 70% of all strategic alliances end in failure (Bleeke and Ernst, 1991; Harrigan, 1989) and that, in the past, the majority of alliances have been formed for manufacturing or R & D purposes British managers may be more wary of such an approach, preferring instead to design and develop their own products and services and then enter alliances in order to get access to overseas markets. Alternatively the overseas firms may be taking the same approach with their British partners signing agreements for British companies to represent them in the British or perhaps even the European market. A further reason for the decline in R & D and manufacturing type alliances may be the industries represented and the fact that more

alliances are being formed in service sectors. This would suggest that the service sector is thus becoming more prominent. Almost as many alliances were recorded in the service provision sector for this database (141) as compared to Glaister and Buckley's (1994) who recorded 142.

Table 3.14: General Purpose of International Strategic Alliances formed: 1988-1995

Purpose	Number of Alliances	% of Alliances
Non marketing-related	177	23.5
Marketing-related	436	57.8
Service Provision	141	18.7

Interestingly just under 20% of British firms enter alliances in order to improve the level of service provided overseas, again a reflection of the number of service industries now forming alliances. The category of 'service provision' was first identified by Glaister and Buckley (1994) and accounted for just under 30% of the reasons for joint ventures in the 1980s. The percentage appears to have fallen, but could be due to different reporting mechanism and greater use of the term market development. Table 3.15 also shows the incidence of strategic alliances by purpose to be similar over the period 1988-1995.

Table 3.15: International Strategic Alliance Formation - Broad Purpose Grouping by Time Period.

Purpose	Time Period 1988-1991	Time Period 1992-1995	Total
Marketing related	233	203	436
Non marketing-related	93	84	177
Service Provision	76	65	141
Other	9	15	24
Total	411	367	778

Chi Square = 2.40; df = 3; P = 0.49

The chi-square test of independence found no significant difference ($X = 2.40$; $P=0.49$) between the broad purpose of the alliance and the time period of alliance formation. There was no association between the purpose of the strategic alliance and the time period of the formation (i.e. first or last four years of the period studied) and therefore there are no changes in the motives of UK firms for forming international alliances over the period under study.

Comparing the purpose of the international strategic alliance with the geographic region with which it has been formed it can be seen (see Table 3.16) that over two thirds of alliances between Britain and the USA are for marketing-related purposes. This may well explain why so many contractual agreements exist between British and American companies as it is probably less likely that marketing agreements will result in some form of equity stake. This is again quite a different picture to that provided by Glaister and Buckley (1994) who observed that less than 30% of international joint ventures between British and American firms were for marketing purposes.

Table 3.16: International Strategic Alliance Formation by Purpose and Region

Broad Purpose	Western Europe		USA		Japan		Other		Total
	Count	%	Count	%	Count	%	Count	%	
Marketing Related	208	47.7	153	35.1	61	14.0	14	3.2	436
Non-marketing related	94	53.1	51	28.8	24	13.6	8	4.5	177
Service provision	81	57.4	32	22.7	25	17.7	3	2.1	141
Other	15	62.5	6	25.0	3	12.5	0	0	24
Total	398	51.2	242	31.1	113	14.5	25	3.2	778

We can also consider the purpose of the alliance in terms of the industry groupings as shown in Table 3.17. It is shown that a high proportion of non-marketing related alliances are concentrated in group 2 manufacturing which includes the chemical, heavy

industry, property and construction, food and drink and utilities. In some of these industries strategic alliances are formed to perform R&D and production related activities. The marketing related alliances exist in all the industry groupings which supports the fact that marketing is a very important activity for the British firms. The service provision alliances, are concentrated in the Tertiary sector, as would be expected. The chi-square shows an association between the purpose of the alliance and the industry sector in which it is formed ($X = 107.86$; $P=0.000$).

Table 3.17. International Strategic Alliance Formation by Industry and Purpose

Broad Industry Groups	Marketing related	Non-marketing related	Service provision	Other	Total
Group 1 Manufacturing	110 (14.1%)	46 (5.9%)	54 (6.9%)	10 (1.3%)	220 (28.3%)
Group 2 Manufacturing	152 (19.5%)	113 (14.5%)	19 (2.4%)	10 (1.3%)	294 (37.8%)
Tertiary	174 (22.4%)	18 (2.3%)	68 (8.7%)	4 (0.5%)	264 (33.9%)
Total	436 (56.0%)	177 (22.8%)	141 (18.1%)	24 (3.1%)	778 (100.0%)

Chi Square = 107.863; df = 6; P = 0.000

3.4. Summary

This chapter has shown that the level of international strategic alliance activity being undertaken by UK firms in the late 1980s and early 1990s is continuing at a high level. Although the overall level of activity appears to have peaked compared with the big rises observed in the 1970s and 1980s (e.g. Hergert and Morris, 1998; Glaister and Buckley

1994), the number of international partnerships being formed with US firms is increasing, whilst the number of alliances formed with European firms is on a more downward trend and the alliance activity with Japanese companies has remained relatively stable.

The type of alliances entered into appears to have changed with much greater emphasis on equity participation. Whilst the risks may be higher, it would appear that maintaining some level of equity control may be an important factor within international UK strategic alliances. The industries represented show a number of changes too. Although financial services are still the main firms entering into international strategic alliances, an overall decrease in activity has been seen in the aerospace and automotive industries. Meanwhile increased activity has been observed in the pharmaceutical sector as well as in food and drink, property and construction and transport. Furthermore, new industries such as retailing and utilities, are getting more involved in international strategic alliances.

The purpose for forming alliances has also seen a marked change over the data collected in the 1970s and 1980s (e.g. Hergert and Morris, 1988; Glaister and Buckley, 1994) as marketing-related reasons become more important factors in alliance formation with marketing and market development being the key purposes for British firms entering into international strategic alliances. The number of service-related organisations is also reflected in the high percentage of alliances being set up for service provision purposes.

The continuing high level of international strategic alliance activity by UK firms is a clear indication that managers realize that to compete effectively in an increasingly global business environment they need to pool resources and knowledge with overseas firms. However, whilst this chapter has provided a good overview of the level of activity and the reported reasons for engaging in cross-border partnerships it does not provide any indication as to the likely outcome of an international strategic alliance. It is widely

reported within the literature that between 30% and 70% of all strategic alliances fail (e.g. Killing 1982; Beamish 1985; Kogut 1988; Harrigan 1985; Bleeke and Ernst 1991). Given that so many firms continue to enter into cross-border alliances it is important to gain a deeper understanding of what makes an international strategic alliance successful. The development of this database is, therefore, the first stage of this study to determine the characteristics of successful international strategic alliances between UK firms and their US, European and Japanese partners.

CHAPTER FOUR

RESEARCH METHODOLOGY

4.1 INTRODUCTION

This chapter sets out the methodology adopted in the course of this research and it specifically considers the approach used to select and contact UK firms with international strategic alliances. It considers the dimensions of the sample, the measurement of the constructs, the collection of the data and proposed method of analysis.

4.2 CHOICE OF METHODOLOGY

Research methodology is concerned with the analysis of how theories are designed, tested and analysed and so the choice of the appropriate philosophical perspective for the particular research question is important. There is a long-standing debate in the social sciences about the appropriate philosophical position from which methods should be derived. Two basic approaches are proposed: phenomenology and positivism (Easterby-Smith et al 1995; Cassell and Symon 1994; Evered and Louis

1991). Positivism is a school of thought that maintains that the social world exists externally and that knowledge should be based on objective measures rather than subjective inference. Researchers following this approach, use quantitative methods. Quantitative research is concerned with establishing causal associations among objectively specified variables through testing hypothesis derived from predictive theories (Kerlinger 1973). Phenomenology contends that the world and reality are not objective and exterior but socially constructed and given meaning by people, and therefore dependent upon subjective interpretation (Evered and Louis 1991). Researchers following this approach tend to use the qualitative methods for data collection and data analysis (Easterby-Smith et al 1995; Cassell and Symon 1994). The qualitative methodology is appropriate when the research problem is explorative and intuitive and research is concerned with understanding social processes rather than social structures (Ghuri 1994). The technique is often defined by what it is not. The different research focus of the two approaches is also reflected in the methodologies used. Quantitative methods involve the precise measurement of variables and collection of data under standardised conditions. The reliability and consistency of the data collected, its analysis by sophisticated statistical means and its replicability are issues of crucial importance in quantitative studies (Bryman 1988). In qualitative research the data are collected through observation and interviews and case studies (Bryman 1988). Central features of this approach are the importance given to the careful selection of cases, drawing causal inferences, the subjective account, emphasis accuracy, and the subsequent search for inconsistencies in the data collected (Easterby-Smith et al 1995; Cassell and Symon 1994). According to Easterby-Smith et al (1995) the nature of the social phenomena being explored, and

the context of the research can determine the appropriate research design. This means that your research design will be determined by what you want your study to achieve. Researchers in the area of strategic alliances have employed a range of research approaches, from case studies (Yoshino and Rangan 1995; Cullen et al 1994), surveys (Bucklin and Sengupta 1993; Mohr and Spekman 1994; Yan and Gray 1994) and historical analysis (Gomes-Casseres 1989; Hennart 1991) to game theory and simulations (Parkhe 1993; Shamdasani and Sheth 1994). However there has been a lack of systematic research on international strategic alliances (Terpstra and Simonin 1993). Researchers know little about the underlying causes of successful alliances (Mohr and Spekman 1994). Drawing upon the tradition of positivism, this study used quantitative research methods to investigate the basic patterns and relationships of the phenomena of international strategic alliances. The aim was to examine the impact of behavioural and organisational characteristics on alliance performance. The constructs were measured objectively using a questionnaire. The study required the collection of data across a number of organisations and industries, which made it possible to generalise statistically significant findings to a wider population. Qualitative data would not have allowed such systematic comparisons to be made.

4.3. SAMPLE DESIGN

One of the most fundamental stages in research design is deciding on the number of participants to include. Sample selection refers to the question of whether the group of individuals or the situation that is being studied is typical of the population being studied (Cramer 1998). In the current study a sample size of 450 alliances was selected and was considered to be representative of the population (see section 4.3.2.).

It is important to devise careful systematic sampling to try to ensure representativeness in survey research (Bryman 1988). For the purpose of this research, it was only possible to include alliances that had been reported in the press (see section 3.2.1. on database construction).

4.3.1 The Population and Sample

The population sample for the study was defined as international strategic alliances between British firms and their US, Japanese and European partners in the UK. A full range of industries was covered and the alliance included at least one overseas partner. Equity and non-equity partnerships were included. UK companies were selected because of ease of access to companies and budget and time constraints. In terms of the nationality of the partner firms, the triad region (USA, Japan, Western Europe) was selected for a number of reasons. The countries of the triad region have similar industrial structures, as well as different and competitive positions in the world marketplace (Terpstra and Simonin 1993; Ohmae 1986). The triad region is also regarded as an important market for alliances and a source of partners for international alliances. Terpstra and Simonin (1994) found that in terms of market coverage for the formation of international alliances, the American market ranked first, followed by Western Europe and Japan. Furthermore, collaboration between UK companies and firms from the triad region has increased since the late 1970's (Hergert and Morris 1988; Glaister and Buckley 1994) and has attracted much attention (Terpstra and Simonin 1993). The size of the population was initially unknown, because the information concerning the number of strategic alliances between British companies and their international partners was not available from official sources. This information was to be obtained from listings of strategic

alliances reported in the financial press. A total of 778 strategic alliances between British and European, Japanese firms and US were identified (see section 3.2.1). Within Western Europe the majority of the UK international strategic alliances had been formed with firms from Germany, France and Italy. As these represent the major European trading countries for UK firms and accounted for 61.6% of all European alliances, it was decided to limit the European population to these countries. This reduced the number of alliances to 613, which represents the population for this study. The next stage was to ascertain whether or not the selected 613 strategic alliances were still in operation. A comprehensive survey of business and telephone directories was carried out to locate each firm's telephone number, head office and the names of either the company secretary or Managing Director. The following sources were used to set up a database of UK firms names, addresses, and telephone.

- a) OneSource UK Companies. A business information database in the University of Warwick library
- b) Key British Enterprises 1997. Published by Dun and Bradstreet International, London
- c) Major UK Companies Handbook 1997. Published by Extel (part of Financial Times Information Ltd)
- d) Kompass 1997. Published by Company Information.

Neither a contact name nor an address could be obtained for 57 of the strategic alliances. The remaining 556 alliances were contacted by telephone, of which 450 alliances agreed to participate. Therefore the number of alliances that could be sampled was reduced to 450. A number of reasons were given by the 106 firms,

which declined to participate in the study. Many firms claimed that the information requested was sensitive and their terms of agreement did not allow them to disclose such information. A small number of firms refused without giving a valid reason and added that they were simply not interested.

4.3.2 Sample Representativeness

This section will analyse the representativeness of the sample of 450 alliances which agreed to participate in the research, in terms of the date the alliance was formed, the industry sector of the UK firm, and the foreign partner country. The 450 alliances represent 73.4% of the total population of 613 strategic alliances.

In terms of the date of the alliance formed, the sample is validated by the examination of the number of alliances formed each year in terms of the total population. As can be seen from Table 4.1 the sample number of alliances is fairly representative of the population in terms of the number of alliances formed each year.

Table 4.1. Date of Alliance Formation of Sample International Strategic Alliances

Date of alliance	Sample Number of Alliances	Percent	Population Number of Alliances	Percent
1988	56	12.4%	79	12.9%
1989	61	13.6%	82	13.4%
1990	54	12.0%	75	12.2%
1991	48	10.7%	76	12.4%
1992	55	12.2%	73	11.9%
1993	50	11.1%	69	11.3%
1994	55	12.2%	76	12.4%
1995	71	15.8%	83	13.5%
Total	450	100.0%	613	100.0%

As for representativeness in terms of the nationality of the partner, the sample was drawn from five countries (USA, Japan, France, Germany, and Italy). Table 4.2 gives a breakdown of alliance activity in terms of the foreign countries with which UK firms have formed alliances. The sample of countries used in the study appears to be representative of the population. In the case of consortia, the average size of the sample is lower than that of the total population. This may be because, of the total number of consortia, only 11 were willing to participate in the study. Furthermore, fewer agreed to participate because of the complex nature of consortia involving more than one overseas partner and often more than one country. Also some of the consortia had partners outside the Triad region and so were not willing to participate.

Table 4.2 Nationalities of Foreign Partner Firms of Sample International Strategic Alliances

Foreign Country	Sample Number of Alliances	Percent	Population Number of Alliances	Percent
USA	184	40.8%	242	39.5%
Japan	88	19.6%	113	18.4%
France	82	18.2%	104	16.9%
Germany	52	11.6%	74	12.1%
Italy	33	7.3%	42	6.9%
Consortia	11	2.4%	38	6.2%
Total	450	100.0%	613	100.0%

As far as the industrial sectors of the alliances are concerned, the sample includes 17 industries. Table 4.3 shows that the number of alliances across industry groupings in the sample is broadly representative. There appears to be a divergence between the sample and the total population in terms of the following industries: aerospace, telecommunication, pharmaceutical, engineering, and technology. The sample size of

these five industry groups is lower than that of the total population. This was due to the fact that some individual companies in these industries had a number of alliances and were only willing to complete questionnaires for two or three of their relationships. For example one of the telecommunication companies had approximately 12 alliance partners, but agreed to only complete questionnaires for five of these partnerships. For three of the industries (leisure and entertainment, advertising and food and drink, the total population was included. Alliances within these industries appeared to have increased during the second half of the eighties (Culpan and Kostelac Jr 1993). These alliances may have agreed to participate because the alliances are relatively new.

Table 4.3 Industry Sector of UK Firms for Sample International Strategic Alliances

Industry	Sample of Alliances	Percent	Population of Alliances	Percent
Financial Services	71	15.7%	85	13.9%
Pharmaceutical	27	6.0%	47	7.7%
Construction and Property	41	9.1%	47	7.7%
Food and Drink	34	7.6%	34	5.4%
Engineering	25	5.6%	48	7.8%
Technology	27	6.0%	49	8.0%
Heavy Industry	27	6.0%	33	5.4%
Aerospace	12	2.7%	33	5.4%
Telecommunication	17	3.8%	36	5.9%
Automotive	29	6.4%	32	5.2%
Chemical	20	4.4%	27	4.4%
Leisure and Entertainment	37	8.2%	37	6.0%
Business and Information Services	21	4.7%	25	4.1%
Transport	12	2.7%	15	2.4%
Utility	13	2.9%	15	2.4%
Retailing	20	4.4%	22	3.5%
Advertising	9	2.2%	9	1.5%
Other	8	1.5%	21	3.4%
Total	450	100.0%	613	100.0%

4.4 DATA COLLECTION

Data can be collected in many different ways. There are three methods of data collection in quantitative research (Sekaran 1992). Interviewing, self-administered questionnaires that are personally administered, or sent through the post, and observation. The choice of data collection method depends on the facilities available to the researcher, the degree of accuracy required, the expertise of the researcher, the time span of the study, and other costs and resources associated with and available for data gathering (Sekaran 1992). Mail questionnaires are less expensive and less time consuming than interviewing (Sekaran 1992) and are a more efficient and accurate means of assessing information about the population (Zikmund 1984). For the purposes of this research a mail questionnaire was used so that a wide geographical area could be covered.

The development of the database was the first stage of the research project, which was necessary to identify the number and nature of UK international strategic alliances (see chapter 3). The second stage required the collection of primary data through a mail questionnaire. Prior to the administration of the questionnaire, an initial enquiry with either the company secretary or senior personnel was made by telephone, to confirm names and addresses of the UK firms involved in strategic alliances. An attempt was also made to ascertain whether or not selected firms had been involved in the alliance. This was necessary because of the lack of reliable data on UK international strategic alliances available from published sources. This provided a means of correctly identifying strategic alliances.

Questionnaires were mailed to 450 alliances, addressed to either a senior executive who was or had been involved in the alliance or to a named person provided by the initial inquiry. Each letter outlined the aims of the research and promised confidentiality and a copy of the findings of the study as an inducement to participate (see Appendix 1 for a copy of the letter). The questionnaires were mailed to the respondents, with self-addressed, stamped return envelopes. Three weeks after the mailing of the questionnaires telephone calls were made to all firms to whom questionnaires had been sent.

4.4.1 Response Rate

Improving mail survey response rates, and reducing response bias have been the focus of numerous research studies (Saxton 1997; Lee and Beamish 1995; Moorman et al 1993). In conducting quantitative research, researchers are concerned with the overall response rate to a survey and the ability to apply the findings to a larger population. To utilise the results, the researcher must take account of non-response error by being sure of whether non-respondents hold significantly different attitudes and opinions from those held by the survey respondents (Zikmund 1984). There are a number of criteria which can be used to ensure higher response rates, including layout and presentation of questionnaire, inclusion of a covering letter, using the respondents name, stamped addressed envelope, a copy of the results (Tull and Hawkins 1990). However, the effect of these are generally small (McCrohan and Lowe 1986; Dommeyer et al 1985; Yu and Cooper 1985). According to Chebat and Picard (1984) an initial enquiry usually by telephone to inform the respondent that they will receive a questionnaire and requesting their cooperation can increase the response rate.

From the 450 questionnaires mailed 287 responses (63.7%) were received. A total of 114 completed questionnaires were received representing a usable response rate of 25.3%. In the light of previous research, this can be said to be a good response rate (Mohr and Spekman 1994), and was likely to have been influenced by the initial enquiry by telephone to each firm to inform respondents that they would receive a questionnaire. Nonetheless, the response was lower than hoped for since all respondents who failed to reply had initially agreed to participate in the study. This may have been due to the lengthy nature of the questionnaire and time of year. The 173 respondents who returned uncompleted questionnaires are analysed in Table 4.4.

Table 4.4: Analysis of International Strategic Alliances which declined to Co-operate

Reason for Non-Response	Number of Firms	Percentage Total
Alliance terminated/acquired	83	48.0%
Contractual confidentiality	38	22.0%
Heavy work load	27	15.6%
Agreement not a strategic alliance	12	6.9%
Agreement did not materialise	13	7.5%
Total	173	100.0%

Apart from the 27 firms who did not complete the questionnaire due to a heavy workload, all 146 firms provided significant reasons for being unable to complete the questionnaires. Eighty-three of the firms, which declined to co-operate, declared the alliance had been terminated and that senior management who had been involved in the alliance were no longer with the company. Despite the assurances of confidentiality 38 firms declined to co-operate because the terms of the agreement did not allow them to disclose proprietary information regarding their relationship with their partner. Artisien (1985) also noted this finding in his research on joint

ventures in Yugoslavia. It was interesting to note that 12 firms did not co-operate because they claimed that their agreement did not constitute a strategic alliance. This may be because varied interpretations of the term strategic alliance exist even within the academic literature. These firms were involved in joint ventures, but did not consider them to be strategic hence their unwillingness to participate in the study.

4.5 OPERATIONALIZATION OF VARIABLES

This section provides the operational definitions of the variables and their method of measurement. The process of operationalization or measurement involves assigning meaning to a construct by specifying the activities or operations necessary to measure it (Kerlinger 1973). Nunnally (1978) defines it as the assignment of numerals to a concept that has been adopted for a specific scientific purpose. The development of measures, which are reliable and valid, is a critical requirement for the evolvement of the strategic alliance field, where measurement of constructs is vastly underdeveloped. This deficiency has been noted in many studies. Geringer and Herbert (1988) for example, pointed out a lack of commonly accepted guidelines for measuring control in international joint ventures. Parkhe (1993), meanwhile, outlined the importance of clearly defining theoretical concepts and measuring them in reliable and valid ways. A number of other researchers have also noted that in many areas within strategic alliances there has been a lack of well defined constructs and measures (Ruekert and Churchill 1984; Aulakh et al 1996; Stern and Reve 1980). For the purposes of this research since an appropriate instrument was not available in the literature, a questionnaire was designed exclusively for this study. The survey

instrument was developed according to the approach offered by Churchill (1979) who recommended a number of stages (see section 4.5.4).

In this study responses to all items were made on Likert-type-five-point scales for the measurement of constructs. A Likert scale requires that respondents indicate how strongly they agree or disagree with a series of statements which are associated with the attitude under investigation (Zikmund 1984; Tull and Hawkins 1990). The Likert scale was chosen because they are the most widely used measures of attitude and because they are simple to construct and easy to administer (Zikmund 1984; Tull and Hawkins 1990). They are thus the most useful in circumstances where there is no interviewer to explain how to use the measuring instrument, such as the mail questionnaire (Webb 1995). This was important in this study because the questions were quite detailed. For these reasons the scales were believed to be effective and appropriate instruments for the measurement of the study's constructs. The variables in this study are classified as independent and dependent. Multiple item and single measure items were used to operationalise the independent and dependent variables.

4.5.1 Independent Variables

The independent variables are grouped into two sets - behavioural characteristics and organisational characteristics. The behavioural characteristics include coordination, interdependence, commitment, trust, conflict, and communication behaviour. The organizational characteristics include the structural relationship and control issues (see Appendix 2 for questionnaire and Appendix 3 for construct development)).

Coordination concerns how well the partners interact with each other in order to facilitate goal attainment (Salmond and Spekman 1986; Anderson and Narus 1987). Coordination was assessed through four measures (eleven items). Respondents were asked to respond to eleven items designed to capture the extent of coordination between the UK partner and its international partner.

Interdependence can be defined as the degree of dependency of each firm on its partner (Kumar et al 1995). Interdependency was measured on two dimensions - replaceability and dependency on resources using four measures (13 items), regarding the perceived dependency of the UK partner on its international partner (Heide 1994; Kumar et al 1995; Geyskens et al 1996).

Commitment has been defined as each firm's identification with and involvement in the alliance relationship (Porter et al 1974). Commitment has been operationalized from Porter et al's (1974) organizational commitment questionnaire (OCQ), to measure the extent to which each party identifies with the goals and objectives of the alliance, is willing to exert effort on behalf of the alliance, and intends to maintain the relationship. The OCQ has been used widely in research and has demonstrated good psychometric properties (Mowday et al 1979) and high reliability in over thirty-five studies in organizational behaviour (Randall 1990). The three dimensions were assessed using four multi-item scales (28 items), tapping the extent of commitment the UK partner perceives to have with its international partner.

Trust has been defined as the willingness to rely on an exchange partner, in whom one has confidence (Moorman et al 1992). Trust was measured using four measures

(15 items) adapted from the literature reviewed to assess the extent of perceived trust between the partners from the perspective of the UK firm.

The *conflict* measure concerns the level of conflict between the partner firms and was assessed in terms of the degree of conflict, the basis of conflict (Anderson and Narus 1990; Kogut 1988) and how conflicts may be resolved (Mohr and Spekman 1994) among alliance partners. This construct was operationalized using four measures (14 items).

Communication was measured in terms of information quality, information sharing and participation (Huber and Daft 1987; Mohr and Spekman 1994). Information quality refers to the timeliness, accuracy, adequacy and credibility of information exchanged (Daft and Lengel 1986; Huber and Daft 1987). Information sharing measures the extent of information exchange between the UK firm and its partner (Mohr and Spekman 1994). Participation measures the extent to which partners engage jointly in planning and goal setting (Mohr and Spekman 1994). All three dimensions were adapted from Mohr and Spekman (1994) using three multi-item scales (15 items).

A nine-item scale was used to measure the organizational *structure* of international strategic alliances. The measure concerned the assessment of formalization, centralization and complexity (Hall et al 1967; Frederickson 1986; Dalton et al 1980). Formalization and centralization and complexity were measured using three multi-item scales (9 items) based on the work of John (1984), Ruckert and Walker (1987) and Moorman et al (1993).

Control refers to the process by which one entity influences the behaviour and output of another entity through the use of power, authority and a wide range of bureaucratic, cultural and informal mechanisms (Ouchi 1977; Geringer and Herbert 1989). In measuring control Geringer and Herbert's (1989) characterization of control in terms of the scope, extent and mechanisms of control was adopted. The first dimension, the scope of control is assessed using a ten-item scale. The second dimension, the extent of control is measured with a single item. The mechanism of control was assessed using an eleven-item scale. These scales are adapted versions of the scales used by Killing (1982, 1983), Schaan (1983) and Beamish (1984).

4.5.2 Dependent Variable.

The dependent variable in this study is the success of the strategic alliance. As stated earlier (see section 2.4) international strategic alliance success is a problematic construct, both in terms of its definition and also in terms of measurement. Given the range of motives and objectives for which firms engage in international strategic alliances, it would not be feasible to measure success in one way. Therefore, a multiple approach to the measurement of success in international strategic alliances was designed and five sets of questions were included in the questionnaire (see questions 38, 39, 40, 41 and 43 in Appendix 2 and Appendix 3 for construct development). Strategic alliance success was measured in terms of perceived "alliance performance" and "alliance satisfaction".

Strategic alliance performance was measured with a multi-item scale derived from the ones proposed by Schaan (1983) and used by Geringer and Herbert (1991). The UK partner firm was asked to indicate the criteria used to evaluate performance along

11 dimensions, and indicate how successful the alliance was in terms of those criteria. These dimensions included *market share, sales growth, profitability, access to market, cost control, competitive position, technology development, product design, marketing, distribution and return on investment.*

Four measures were used to measure *Alliance satisfaction*. The first measure asked UK firms to evaluate their satisfaction with the alliance along eight dimensions. These included *coordination of activities, level of interaction between managers, compatibility of activities, participation in decision-making by partner, level of commitment shown by your partner, your partner's sharing of information with your firm, your partner's assistance in managing alliance activities and level of honesty shown to your firm.* This measure of satisfaction was developed for the study based on the review of the literature (Anderson and Narus 1990; Bucklin and Sengupta 1993; Cullen et al 1994; Geringer and Herbert 1986). The second measure was a single measure of the UK firm's satisfaction with the overall performance of alliance. Killing (1983), Schaan (1983) and Beamish (1985) have previously used this measure. A third measure of alliance satisfaction measured the UK firm's satisfaction with meeting alliance objectives along five dimensions (*profits, market share, sales growth, market development and product development*). This was adapted from Ruekert and Churchill (1984). Lastly, partner satisfaction from the perspective of the UK firm was considered using a single measure (Bucklin and Sengupta 1993).

4.5.3 Other Variables

In addition to the above variables, a number of general questions were considered (see questionnaire in Appendix 2). Questions concerning the *date of alliance formation,*

industry sector, type of alliance, function of alliance, motives for engaging in the alliance were asked in order to obtain as a complete picture as possible of the international strategic alliances formed by UK firms in the period 1988-1995. These questions also helped to verify the database information collected from published sources (see Chapter three).

There were also some general questions concerning the frequency and mechanism of contacts between alliance managers, and the future of the alliance. In the case of *frequency of contacts* between alliance partners the respondents were asked to indicate from a list of eight possible choices; daily, weekly, monthly, quarterly, half yearly, yearly, no set frequency and never. Respondents were asked the importance of *contact mechanisms* used in the alliance partnership on a scale from one (not at all important) to five (very important). These measures were adapted from a review of the relevant literature (Bucklin and Sengupta 1993; Mohr and Nevin 1990). *Future of the alliance* was measured on a five-point scale based on whether both parties agreed on either a specific plan for termination or a long-term relationship. Respondents were also asked to indicate if the alliance had been terminated and the date of termination. This measure was based on a review of the literature (Beamish 1985; Gomes-Casseres 1987).

4.5.4 Construct Measurement

As already stated above construct measurement followed the guidelines offered by Churchill (1979).

Step 1. Specify Domain of the Construct. From a review of the literature, the underlying characteristics of international strategic alliances were identified. Each

variable was defined conceptually and a pool of items was generated that were consistent with the defined construct.

Step 2. Generate Sample of Items. A thorough review of the literature aided item generation. The literature provided definitions for each of the variables used in the study as well the dimensions for each of the variables. Relevant existing measures were assembled from the literature and bases for new measures were developed. Most of the items were developed specifically for the study, though some scale items were adapted from previous research (see section 4.5.). Existing scales used were modified and adapted for the purposes of this study.

Step 3. Purify the Measure. This step examines the extent to which the measurements used for the study are reliable. The most important reliability assessment is internal consistency between multiple measurements of a variable (Nunnally 1978). The two most popular procedures used to estimate internal reliability are split-half reliability and Cronbach's alpha (Bryman and Cramer 1997; Churchill 1979). In the split-halves method the total set of items is split into two groups and the scores on the two groups are correlated to obtain an estimate of reliability (Bryman and Cramer 1997). However the major problem with the split-halves approach is that the correlation between the halves will differ, depending on how the total number of items is divided into halves and could thus lead to a different reliability estimate (Carmines and Zeller 1994). The most popular and widely used approach to estimate reliability is given by Cronbach's alpha (Bryman and Cramer 1997). This essentially calculates the average of all possible split-half reliability coefficients, and can be computed for any multiple-item scale. Nunnally (1978)

proposes that coefficient alpha provides a good estimate of reliability. The alpha coefficient generated from the analysis varies between .00 and 1.00 and the closer the result to 1.00 the greater the internally reliability of the scale (Bryman and Cramer 1997). While a Cronbach's alpha score of > 0.5 is acceptable, a score of > 0.7 signifies good scale reliability (Nunnally 1978). The average inter-item correlation and the number of items in the scale determine the interpretation of Cronbach's alpha. As the average correlation among items increases and the number of items increases, the value of alpha increases. However, Carmines and Zeller (1994) note that adding items to a scale can reduce the scale's reliability, if the additional items lower the average inter-item correlation. An essential requirement for the alpha coefficient providing an unbiased estimate is that the scale is unidimensional (Nunnally 1978). The dimensionality of the constructs may be examined by using factor analysis.

In this study, it was not feasible to test the subjects more than once, therefore only Cronbach's alpha reliability tests were performed. The following procedure was used. First all multi-item measures were estimated with item-to-total correlations. Items with low item-to-correlations were deleted. Second all remaining measures were factor analyzed to assess the extent to which the measures of the constructs reflected a single dimension (see section 4.6.1. for a discussion on factor analysis). The resulting factors were then assessed for reliability using Cronbach's alpha (Nunnally 1978; Churchill 1979).

Step 4. Assess Reliability with New Data. This requires the collection of additional data to test reliability, by giving the same test to the same subjects after a period of time, in order to rule out the possibility that the findings in the previous steps are due

to chance. However Churchill (1979) contends this procedure should not be used because they underestimate the reliability of empirical measurements. In this study it was not feasible to assess the reliability with new data because of financial limitations and time constraints of the respondents.

Step 5. Assess Construct Validity. Construct validity refers to the extent to which an instrument measures the theoretical constructs it claims to assess (Carmines and Zeller 1994). Three different types of validity are generally used in testing an instrument: content validity, criterion validity and construct validity.

Content validity determines the extent to which an empirical measurement reflects a specific domain of content. This type of validity implies that all the dimensions and elements of a concept being measured are considered by the instrument (Carmines and Zeller 1994). Content validity can be established if a group of experts in the field can evaluate that the items pertain to the variable being measured. To ensure high content validity, all measurements developed were based on a comprehensive review of the literature and detailed evaluation by an academic and managers. Pre-tests of the questionnaire was conducted by a faculty member of the Warwick Business School. Copies of the questionnaires were also sent to senior executives with extensive alliance management experience in the automotive sector. The objective of the pre-test was to check whether the questions were easy to answer and easy to follow. However it must be noted that this type of validity is subjective and there is no objective way to assess it (Carmines and Zeller 1994).

Criterion validity is sometimes referred to as predictive, concurrent or external validity (Carmines and Zeller 1994). Nunnally (1978: 87) notes that criterion validity, "is at issue when the purpose is to use an instrument to estimate some important form of behaviour, the latter being referred to as the criterion". Basically the measure differentiates individuals on a criterion it is expected to predict. In this study criterion validity of the behavioural and organizational constructs would be demonstrated if the score on the measures highly and positively correlate with the level of success.

Construct validity refers to the extent to which a measurement instrument actually measures the theoretical constructs it claims to assess (Carmines and Zeller 1994; Churchill 1979). Construct validation can be determined by (1) the degree to which measures of the same concept have similar correlations, and (2) the degree to which the measures of a construct have low correlations with constructs not measuring the same concept. This means that measures of different constructs should share little variance (Nunnally 1978). Factor analysis was conducted to assess the convergent and discriminant validity of the study's constructs (see Section 4.6.1).

4.6 DATA ANALYSIS

The data collected were analysed by using several techniques that are available in the SPSS statistical package. The analysis of data was accomplished in three steps. The first step aims to validate the proposed constructs in the theoretical framework. The reliability and consistency of the scales was assessed with Cronbach's alpha and factor analysed. Factor analysis was also conducted to evaluate the validity of the constructs. The second step presents a description of the general characteristics of the

sample of international strategic alliances as reported by the respondents. Simple frequency distribution analysis was used to establish the overall pattern of alliance activity for the sample. In the final step, the propositions were tested. T-tests were employed to analyse the data. Multivariate discriminant analysis was employed to test differences between successful and less successful strategic alliances on all independent variables. The propositions were also tested using multivariate regression analysis.

4.6.1 Factor Analysis

Factor analysis is a multivariate statistical technique, which aims to simplify complex sets of data (Kline 1994). The primary objective of factor analysis is to identify a minimum number of underlying factors by grouping together a set of variables that are intercorrelated under one factor, and thus producing a set of interrelated variables. The factors extracted will express what was common among the original variables (Hair et al 1998; Kim and Mueller 1982).

Two factor analytical techniques can be distinguished. An exploratory factor analytical (EFA) approach and a confirmatory factor analytical (CFA) perspective. The former attempts to determine the underlying factor model that best fits the data, whilst in the latter a factor model is derived and then evaluated for goodness of fit to the data (Grimm and Yarnold 1997). In this study factor analysis was employed using the EFA approach. The study conducts a principal components factor analysis with varimax rotation to assess convergent and discriminant validity of the various items to confirm the construct validity of the data set and provide reassurance as to the reliability of the research design employed.

Factor analysis involves four basic steps: (1) an examination of the interrelationships among variables in the correlation matrix; (2) initial extraction of factors; (3) rotation of factors; and (4) interpreting the factor matrix and computing factor scores (Hair et al 1998; Kim and Mueller 1982). A discussion of each stage follows.

Correlation Matrix

A correlation matrix is a set of correlation coefficients between a number of variables (Kline 1994). This is the first major step in factor analysis and involves an examination of the interrelationships among the variables in the data matrix. The data matrix must specify a significant number of correlations between the variables to justify the application of factor analysis. If the correlations among variables is low, (correlation coefficients lower than 0.3) then factor analysis is inappropriate because it is unlikely that the variables will be related to one another and so will not share common factors (Hair et al 1998). A number of criteria can be used to determine the adequacy of the factor analysis. The first is the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy. KMO is an index for comparing the magnitudes of the observed correlation coefficients with the magnitudes of the partial correlation coefficients. The KMO measure tests whether the partial correlations among the variables are small, which would indicate that factor analysis is appropriate. The measure can be interpreted using the guidelines proposed by Kaiser (1974): (see Table 4.5.). Small values on the KMO measure mean that the correlation coefficient between variables is small and the partial correlation coefficient is large which indicates that correlations between pairs of variables could not be explained by other variables. In such a case factor analysis would not be appropriate.

Table 4.5: Interpretation of KMO Index

KMO Index	Applicability of Factor Analysis
.90 or above	Marvelous
.80 or above	Meritorious
.70 or above	Middling
.60 or above	Mediocre
.50 or above	Miserable
Below .50	Unacceptable

Source: Hair et al 1998

This suggests, therefore, that the KMO measure should be greater than about 0.5 for a satisfactory factor analysis to proceed.

The second method is known as the Bartlett test of sphericity, and is used to test the hypothesis whether the correlation matrix is an identity matrix—that is all diagonal terms are one and all off-diagonal terms are zero. The Bartlett test value should be large and its significance levels low. Rejection of the hypothesis is an indication that the data are appropriate for factor analysis (Hair et al 1998). The next step was to identify the appropriate method for factor extraction and factor rotation.

4.6.1.1 Factor Extraction

The initial unrotated factor matrix provided an initial pattern of the data from the various factor loadings and provides a linear combination set of variables, which account for the maximum variance in the data (Hair et al 1998). There are several methods available for extracting factors. These include principal component, common factor, principal-axis factoring, maximum likelihood, alpha factoring, image factoring. The two most widely used methods in social science are principal components and principal-axis factoring (Bryman and Cramer 1997; Kline 1994). Before selecting the appropriate method of factor extraction, it is essential to

understand what is meant by variance. The factor analytical model of variance can be divided into common, specific and error variance (Bryman and Cramer 1997; Kline 1994).

Common variance = proportion of variance common to all factors.

Specific variance = proportion of variance unique to a variable.

Error variance = proportion of variance due to random error (Bryman and Cramer 1997).

Factor analysis does not discriminate between specific and error variance and so they are combined to form unique variance. Thus total variance is equal to the sum of common and unique variance (Bryman and Cramer 1997). In this study principal component analysis was used because it explains the greatest proportion of the total variance, whereas in principal-axis factoring, only the variance common to all variables is analyzed, excluding unique variance from the analysis (Bryman and Cramer 1997; Kline 1994).

Once the factor model has been selected, the initial unrotated factor matrix is extracted to reveal a combination of factored variables. The first factor extracted calculates the maximum variance in all variables, followed by a smaller number of variables, explaining the remaining amount of variance (Hair et al 1998; Kim and Mueller 1982).

4.6.1.2 Factor Rotation

Once the factors have been extracted, the factors must be rotated to yield meaningful groups of variables. The initial factor matrix solution is often difficult to interpret. The first factor is essentially an average of all variables. Unrotated factors are extracted in order of their importance. In order to find factors which are easier to interpret, the factors need to be rotated (Bryman and Cramer 1997; Hair et al 1998). Rotation of factors is said to improve interpretation by reducing some of the ambiguities present in the preliminary analysis (Child 1990). Rotation redistributes the variance from earlier factors to later ones to achieve a more meaningful factor pattern (Hair et al 1998) so that each variables tends to load highly on only one factor. The two most widely used techniques for rotating factors are orthogonal rotation, which produces factors that are independent of one another and oblique rotations, in which the factors are correlated (Bryman and Cramer (1997).

Orthogonal rotation methods are used more frequently because the analytical procedures used for performing these rotations are more developed than oblique rotation methods (Nunnally 1978; Hair et al 1998). Orthogonal rotation has also been used more often in the marketing literature because the factors are easier to interpret since they have the same pattern and structure matrix (Churchill 1979). In addition, the problem of multicollinearity can be avoided when the factors are used for further analysis. In this study orthogonal rotation was applied because the rotated factors explain the same amount of variance as did the unrotated factors and because it is mathematically more simple than oblique rotation (Nunnally 1978). Also since the main objective of the rotation is to simplify the factor matrix, the researcher feels that this will be better achieved through an orthogonal solution. However there is no

compelling analytical reason to favour one rotational method over another (Hair et al 1998).

There are three major orthogonal approaches used: Quarimax; Varimax; and Equimax (Hair et al 1998; Marcoulides 1998). In this study orthogonal rotation was used with varimax, which is the most commonly used rotation scheme, and in which the maximum possible simplification is achieved (Hair et al 1998).

4.6.1.3 Interpretation of Factor Matrix

The rotated factor matrix loadings are interpreted as in the initial factor extraction solution. A factor solution has been obtained when all variables have a significant loading on a factor, and factor labels appropriate for representing the underlying dimensions of a particular factor can then be assigned to each factor. According to Nunnally (1978) unrotated factors are as good in a statistical sense as any rotation of them. The major reason for rotating factors is to obtain a more interpretable solution.

The number of factors to be retained can be determined using a number of criteria. According to Marcoulides (1998) the first factors selected should account for the largest amount of variance. However most solutions account for between 50% to 80% of the total variance. The Kaiser-Eigenvalue Criterion can also be used (Marcoulides 1998). Using this method factors which have an eigenvalue greater than 1 are retained. The scree plot is another technique Cattell (1978) which can be used to select factors. This is a graphical representation of the eigenvalues and the initial factors extracted. The factors to be retained are determined by the point at which the eigenvalues seem to level off. According to Bryman and Cramer (1997) factor loadings which have a value of 0.3 or less are not worth considering. Hair et al

(1998) propose more accurate guidelines for identifying significant factor loadings based on sample size (see Table 4.6.). Thus the larger the absolute size of the factor loading, the more meaningful the loading is in interpreting the factor matrix. Since the squared loading is equal to the amount of the variable's total variance, a loading of 0.7 indicates that 49% of the variance is accounted for by the factor while factors below 0.5 will explain less than 25% of the variance. In this study the lowest factor loading to be considered significant was ± 0.50 . because of the size of the sample.

Table 4.6: Guideline for Identifying Significant Factor Loadings based on Sample Size

Factor Loading	Sample Size for Significance
.30	350
.35	250
.40	200
.45	150
.50	120
.55	100
.60	85
.65	70
.70	60
.75	50

Source: Hair et al (1998)

In some cases a variable will load significantly on more than one factor. This makes it difficult to interpret the factors. When a variable has several significant loadings it must be considered in interpreting all the factors on which it has a significant loading. For this reason it is advisable to evaluate the factor matrix until each variable associates with one factor (Hair et al 1998). In this study all variables which loaded on more than one factor were eliminated. The factor matrix may also identify variables that do not load on any factor and these variables are identified as not having sufficient explanation. These variables can either be ignored in the interpretation or deleted (Hair et al 1998). In this study all variables that did not load

on any factor were eliminated from the interpretation because these variables will be poorly represented in the factor solution. It should be noted that the elimination of variables from the factor solution requires the researcher to respecify the factor model, to derive a new factor solution without the variables that have been eliminated (Hair et al 1998). When the final set of factors is tested for appropriateness by examining factor reliability as stated previously in section 4.5.4. Following Nunnally's (1978) suggestion, factors with Cronbach's alpha less than 0.5 are discarded. Then the meaningfulness of each factor is evaluated. Finally, the ability of the selected factors to explain the degree of variance of the variables is assessed. The final set of factors together should account for at least 60% of the total variance of all the variables. Factors explaining only a small portion of the variance, cannot be considered as useful substitutes of the original variables. The selected factors are named based on the variables, which have the highest factor loadings. The last step in the procedure is the development of factor scores. In this study the final factors derived will be used for further analysis of the data, and thus factor scores were produced. The results of the factor analysis are discussed in chapter five.

4.6.2 T-test

The t-test is one of the best known statistical test for comparing the averages of two samples. The test is designed to test the difference between two means for significance (Kinnear and Gray 1994). The t statistic is calculated by dividing the difference between the sample means by an estimate of the standard deviation of the distribution of differences, which is known as the standard error of the difference. If the t-test statistic exceeds a critical value, the null hypothesis of no difference between the two groups is rejected (Kinnear and Gray 1994). In this study the t-test will be

used to examine all the propositions, comparing the means of high and low performing groups.

4.6.3 Discriminant Analysis

Multiple Discriminant Analysis (MDA) is a statistical technique, which can be used to group objects into two or more groups on the basis of a set of independent variables and to classify observations into one of these groups. The technique is used to determine a linear combination of the independent variables that will discriminate best between two or more defined groups or classifications (Hair et al 1998). The technique can also be used to identify which variables contribute to making the classification (Afifi and Clark 1996).

4.6.3.1 Objectives of Discriminant Analysis

Discriminant analysis was employed in this study to test how well and often the independent variables could correctly predict the dichotomous dependent variable (whether the alliance was successful or unsuccessful). The technique was considered to be appropriate because it addressed the following objectives:

- i) Determine whether statistically significant differences exist between average group score profiles
- ii) Determine which of the independent variables discriminate the most between the groups
- iii) Classify observations correctly into their groups with predictive accuracy

The objective in discriminant analysis is to find a linear combination of the independent variables that minimizes the probability of misclassifying individuals or objects into their respective groups. Discriminant analysis therefore can be considered either a type of profile analysis or an analytical predictive technique (Dillon and Goldstein 1984; Hair et al 1998).

4.6.3.2 Assumptions Underlying Discriminant Analysis

MDA requires that the data used for a particular problem must satisfy a number of assumptions. Namely (Hair et al 1998):

- (i) Discriminating variables must be measured at the interval or ratio level of measurement
- (ii) No variables may be a linear combination of other discriminating variables
- (iii) The covariance matrix of the independent variables in each group must be the same
- (iv) Each group is drawn from a population which has a multivariate normal distribution
- (v) Two variables, which are perfectly correlated, cannot be used at the same time.

There is mixed evidence concerning the stability/affect of the discriminant analysis if these assumptions are violated (Hair et al 1998). Violation of assumptions can adversely affect the significance of statistical results and the estimated error rates (Klecka 1984; Eisenbis 1977). It has been noted that the application of MDA yields optimal results only if the assumptions of multivariate normality and identical

variance-covariance matrices are in place (Eisenbeis 1977; Dillon and Goldstein 1984).

4.6.3.3 Procedure for Discriminant Analysis

The application of discriminant analysis can be divided into three major stages (Hair et al 1998)

- (i) Method of estimation: Deriving a linear function that best discriminates between two or more groups
- (ii) Validation: Classifying existing and new cases into predetermined groups
- (iii) Interpretation: Identifying the variables that contributes most to discriminating between the groups

4.6.3.4 Method of Estimation

Deriving the discriminant function involves selecting the variables that best discriminate between the groups and rejecting the variables that do not add significantly to the model. A stepwise procedure was utilized to select the most powerful discriminating variables into the discriminant function (Hair et al 1998). This method uses a combination of both the backward and forward selection methods. At each step, the variable with the greatest discriminating power, given the other variables in the function, is selected for inclusion and any variables already in the function are considered for removal on the basis that the variable/s do not add a statistically significant amount of discriminating power to the model. This procedure will continue until all variables in the equation satisfy both the inclusion and the removal criteria (Klecka 1980; Hair et al 1998). A stepwise procedure was used because a large number of variables are being analysed and it is useful in screening

and discarding those variables that are poor discriminators between the groups and selecting those variables already present in the model (Grimm and Yarnold 1997).

4.6.3.5 Selection Criteria

Many selection criteria are available when using a stepwise procedure. The Wilk's Lambda criterion was used as the selection criterion with a 0.0001 tolerance level. This means, any variable whose tolerance is less than the specified value 0.0001 is automatically excluded from the analysis. Wilk's Lambda was used in the stepwise procedure because it considers 'both the differences between groups and the cohesiveness or homogeneity within groups' (Klecka 1980 p.54). In entering the variables in to the discriminant function, the stepwise method uses a stopping criterion, based on the P value of an F statistic (Grimm and Yarnold 1997). Values of two statistics are considered. The F-to-enter value determines the discrimination introduced by the variable that is being considered for entry and the variables already in the analysis. If the F is small, the variable is not selected because it is not adding enough to the overall discrimination. The F-to-remove value tests the decrease in discrimination should that variable be removed from the lists of variables already selected, because the variable no longer makes a significant contribution to the discrimination (Klecka 1984; Huberty et al 1987). The F-to-enter and F-to-remove values were set at liberal levels as recommended by previous researchers (Hair et al 1998). A minimum F value of 1.00 was required for entry. The F-to-remove value was set at 0.5.

4.6.3.6 Statistical Significance of Discriminant Function

After the derivation of the discriminant function, the next stage is to determine the extent to which the two a priori defined groups differ with respect to their average score profiles (Dillon and Goldstein 1984). Klecka (1984) noted several ways to assess the statistical significance and substantive utility of the discriminant function.

One way to assess the strength of the discrimination is by examining the Wilk's Lambda statistic, which tests for group differences between the discriminating variables. The range of Wilk's is from zero to unity. Lower values indicate larger mean differences, thus indicating stronger group separation (Grimm and Yarnold 1997). However the test fails to recognize the different dimensions in which the groups may differ (McKay and Campbell 1982). Lambda, however can be transformed into a test of significance, by converting it into an approximate chi-square distribution or an F statistic, which is then used to see if the two groups are statistically different from each other. Discriminant functions are significant at the 0.5 level or beyond.

Another way to determine the substantive validity of a discriminant function is to examine the canonical correlation. This coefficient is a measure of the degree of association between the groups and the discriminant function. The higher the correlation the stronger the relationship between the discriminant function and the groups. In addition to Wilk's Lambda and canonical correlation, the eigenvalue associated with the discriminant function should also be considered. The larger the eigenvalue, the greater the discrimination between the groups (Klecka 1984; Hair et al 1998).

However the statistical tests are poor indicators for assessing the predictive accuracy of the discriminant function. To determine the predictive power of a discriminant function, it is necessary to construct classification matrices (Hair et al 1998). Before a classification matrix is constructed to determine the predictive power of the discriminant function it is important to demonstrate that the observed proportion of correct predictions is significantly larger than would be expected by chance (Frank et al 1965). It is therefore necessary to test the significance of the difference between the proportion of correctly classified cases in the sample and the proportion that would be expected by chance. When the two groups are of equal size, the expected accuracy would be 50%. For two groups of unequal size, two criteria might be considered (Hair et al 1998). If the main objective is to maximise the percentage correctly classified by chance, then the maximum chance criterion is appropriate.

$$C_{\max} = \max(p, 1 - p)$$

where

p is the proportion of individuals in group 1

$(1 - p)$ is the proportion of individuals in group 2

When the objective is to maximise the percentage correctly classified into both groups (and you have unequal sized groups), as in this case, then the percentage correctly classified by the model should be compared with the proportional chance criteria.

$$C_{\text{prop}} = p^2 + (1 - P)^2$$

Where

P is the proportion of cases in group A

$1-p$ is the proportion of cases in group B

If the discriminant function is statistically significant and the predictive accuracy acceptable the function can be interpreted.

4.6.3.7 Interpretation of the Discriminant Function

The discriminant function is evaluated to determine the importance of each variable in discriminating between the groups (Hair et al 1998). A number of methods have been proposed to determine the individual contribution of variables to the overall discrimination. The stepwise procedure assesses the significance of individual variables by removing variables that do not make a significant contribution to the discriminant function. Secondly variables can be ranked on the basis of their standardised discriminant function coefficients. The larger the magnitude of the coefficient, the greater that variable's contribution to the discriminating power of the function. The sign of the coefficient is arbitrary, and indicates whether individual variables are making a positive or negative contribution to the function. The problem with this approach is that if two variables are intercorrelated, it is not possible to assess the contribution of an individual variable because the standardized discriminant weight may be split between the two of them. Thus, both variables would appear as though they were marginal contributors. Alternatively, the discriminant weight for one of the variables may be artificially inflated while the standardized weight for the other is near zero. The problem with this approach is that the variables are treated independently and unimportant variables may become important when combined with other variables. This approach may lead to a distorted estimate of the relative power of individual variables (Dillon and Goldstein 1984; Affifi and Clark 1996) and should be used with caution (Hair et al 1998). Another way to assess the contribution of a variable to the discriminant function is to examine the discriminant loadings or

structure coefficients (Hair et al 1998; Klecka 1984). A discriminant loading measures the simple correlation of a variable with a discriminant function. The discriminant loadings consider the common variance between the independent variables, and are less subject to instability caused by intercorrelations and thus tend to be more useful in interpreting the discriminant function than standardized discriminant weights (Hair et al 1998; Klecka 1984). This research will therefore, consider the structure coefficients when interpreting the discriminant analysis. All of the above methods for investigating the importance of variables for the discriminant functions are subject to limitations and should be employed to arrive at the most accurate interpretation.

4.6.2.8 Validation of the Discriminant Function

Validation is the final stage of discriminant analysis and is aimed at estimating the degree of bias in the predictive power of the discriminant function (Frank et al 1965; Hair et al 1998). Two validation procedures commonly used to estimate error rates of the discriminant function are the split-sample approach and the jack-knife or U-method. The split-sample method requires the splitting of the total sample in two. One subsample is used for the analysis and the other is used for validation. Although this method produces unbiased estimates it requires relatively large samples (Frank et al 1965; Afifi and Clark 1996). An alternative method is the U-method (Dillon and Goldstein 1984; Hair et al 1998). This method is based on the "leave-one-out" principle, in which the discriminant function is fitted to repeatedly drawn samples of the original sample (Hair et al 1998). This approach is sensitive to small samples and it has been suggested that the smallest group size is at least three times the number of predictor variables (Huberty et al 1987). This procedure also makes use of all the data

without serious bias in estimating error rates (Hair et al 1998 Afifi and Clark 1996; Lachenbruch 1967). The validity of the discriminant results in this study was validated through the use of the U method, using SPSS.

4.8 MULTIPLE REGRESSION ANALYSIS

Multiple regression analysis is a widely used quantitative technique in the analysis of data in the social sciences. Regression analysis is a powerful tool for summarizing the nature of the relationship between variables and making predictions of likely values of the dependent variable (Hair et al 1998). To investigate the combined effect of the behavioural and organizational characteristics on the success of international alliances, multiple regression analysis was undertaken with each of the dependent variables measuring success. All the identified factors from the factor analysis will be used as the explanatory variables (independent variables). Therefore the explanatory power of factor matrices which consist of correlation coefficients between variables and factors will be assessed.

4.8.1 Assumptions in Multiple Regression

In calculating the regression coefficients, to predict the dependent variable, certain assumptions should be met to ensure that the results obtained are representative of the sample (Hair et al (1998). In the current study the three assumptions of multiple regression analysis (normality, homoscedasticity and linearity) were met. Firstly, scatterplots of the individual variables indicated linear relationships between each of the dependent variables and the independent variables. Tests for homoscedasticity revealed that the variance of the residuals about predicted dependent variable scores

were the same for all predicted scores. Finally, residuals (differences between obtained and predicted dependent variable scores) were found to be normally distributed about the predicted dependent variable scores.

4.8.2 Estimating the Regression Model and Statistical Significance

The intent of the multiple regression analysis was to determine whether certain behavioural and organizational characteristics were related to each of the alliance performance and satisfaction measures. Therefore, all variables were entered in to the equation simultaneously. After the regression model has been estimated, the significance of the overall model can be determined (Afifi and Clark 1996; Hair et al 1998). To determine how well the regression model implied by the regression equation fits the data, the following statistics are assessed.

Multiple R

Multiple R is the correlation coefficient and reflects how well the independent variables collectively correlate with the dependent variable (Hair et al 1998).

R Square

R squared is the correlation coefficient squared and indicates the percentage of total variation of the dependent variable explained by the independent variables (Hair et al 1998).

F Ratio

The F ratio determines whether there is a linear relationship between the variables by testing the null hypothesis that the multiple correlation is zero in the population from which the sample is taken.

4.8.3 Interpretation of the Regression Variate

In addition to predicting the dependent variable, the impact of each independent variable in predicting the dependent variable can also be assessed (Hair et al 1998). Thus in the case of this study, it can be determined which of behavioural and organizational characteristics had the greatest impact in predicting the success of the international alliance in terms of performance and satisfaction measures. Beta coefficients are standardized coefficients that are used to determine the relative importance of the independent variables included in the regression equation. The beta coefficients represent the impact on the dependent variable of a change in one standard deviation in the independent variable Bryman and Cramer 1997; Hair et al 1998).

4.8.4 Multicollinearity

A key issue in interpreting the regression equation is the correlation among independent variables (Hair et al 1998). If the independent variables are highly correlated the regression coefficients may be unstable and subject to considerable variation (Bryman and Cramer 1997). One measure available for testing the impact of multicollinearity is calculating the tolerance and VIF values. A high tolerance value indicates little collinearity, while tolerance levels nearer to zero indicate high intercorrelations between variables. Likewise, small VIF values are indicative of low intercorrelations between independent variables (Hair et al 1998).

4.9 Missing Data

Missing data can occur for many reasons. There may be several reasons for the respondents' failure to complete the entire questionnaire (Hair et al 1998). It may be that some questions are inapplicable, or that the respondent simply refuses to answer certain questions because of sensitive issues. An analysis of the data in this study revealed that out of the 114 completed questionnaires received eight variables contained missing data regarding alliance performance, and three variables regarding overall objectives. The proportion of missing data for these variables could be explained by the fact that not all of the strategic alliances used these criteria for measuring performance. The proportion of missing data for these variables was very high, therefore these variables were considered unusable for the study.

4.10 SUMMARY

In this chapter we have discussed the methodology and research design of the study. A quantitative methodology was used for data collection and analysis. Based on this approach, 114 questionnaires were received from UK international firms involved in strategic alliances with firms from USA, Japan and Western Europe. The data collected were analysed using quantitative techniques. In this chapter we also introduced and summarised statistical techniques that were used to perform the analysis.

CHAPTER FIVE

Validity and Reliability of Constructs

5.1 INTRODUCTION

This chapter reports the reliability and validity of the study's constructs. The constructs were tested using the approach suggested by Churchill (1979) (see section 4.5.4). First the reliability of the multi-item constructs were computed to estimate the reliability of each scale. The purpose of this analysis was to examine the item-to-total correlations and determine any low items. On this basis, a few items were discarded. Secondly exploratory factor analysis was employed in order to examine the presence of underlying behavioural and organizational dimensions and confirm that questionnaire items used in the study measured the proposed constructs (see section 4.6.1 for a discussion on factor analysis). The reliability of each factor was then assessed using Cronbach's alpha. Finally the reliability of the dependent variable success was assessed.

5.2. Factor Analysis of Behavioural and Organizational Characteristics

A principal components factor analysis with varimax rotation to assess convergence within and divergence between the scales used for measuring the behavioural and organizational characteristics was carried out in order to determine the number of dimensions underlying the constructs. Because of the large number of variables in this study it was not possible to factor analyse behavioural and organizational dimensions together. Therefore the factor analysis was conducted separately for the behavioural and organizational dimensions. This has been demonstrated in previous studies (Mohr and Spekman 1994). Conflict resolution was not included in the factor analysis for the reasons stated below.

The factor models for both behavioural and organizational dimensions were respecified. This iterative process of evaluating the factor analysis results and dropping items and performing the analysis on the remaining items is an effective way of deriving a stable factor structure (Hair et al 1998; Anderson and Gerbin 1982). On this basis a few variables were discarded. All variables loading lower than 0.5 on each factor were eliminated from the analysis because they had a low affinity with all factors and did not tap the underlying dimension (Churchill 1979; Hair et al 1998; Anderson and Gerbin 1988). Variables loading on more than one factor were also omitted from the analysis, since they constitute a threat to unidimensionality (Anderson and Gerbin 1988).

5.3 Reliability and Validity of the Behavioural Constructs

5.3.1 Internal Consistency of Behavioural Constructs

In terms of reliability the behavioural constructs demonstrated good internal consistency. An inspection of the alpha coefficients from Table 5.1 reveals that all coefficients for the scales are greater than .70, and eight of the 12 multiple measure items have coefficients greater than .80, indicating good reliability (Nunnally 1978). The reliability was assessed prior to factor analysis to refine the measures and delete

Table 5.1. Reliability Scales for Behavioural Constructs

Behavioural Constructs	Original Number of Scale Items	Number of Scale Items after Deletion	Cronbach's Alpha
Coordination	8	7	.88
Interdependence	10	9	.70
Commitment /Goals and Values 1	10	10	.93
Commitment / Goals and Values 2	5	5	.91
Commitment/Obligations	7	7	.91
Commitment/stay in relationship	6	6	.86
Trust 1	5	4	.90
Trust 2	8	7	.90
Conflict Resolution	6	N/A	N/A
Conflict	6	4	.70
Information Quality	5	5	.89
Information Sharing	4	3	.72
Participation	5	5	.79
Total	85	72	

items that resulted in low alpha coefficients. In this analysis seven variables were eliminated because of low item-to-total correlations. The variable "we develop strategies and expect our partner to fit in with them" was eliminated from the coordination dimension. The "manufacturing capability" variable from the interdependence dimension was omitted. From the trust dimension the variables "our partner is seen as being self centered and opportunistic" and "there is a lack of continuity in management teams" were removed. In the conflict dimension "poor

communications" and "language difficulties" were removed. Finally, the variable "we hesitate to give our partner too much information" was omitted from the dimension information sharing. The measures for conflict resolution were not tested for reliability, since each of the six items used to represent the construct taps a different dimension of the construct (Mohr and Spekman 1994). This type of measurement has been referred to as a 'check list', or composite scale (Howell 1987). This reduced the total number of multi-item variables to be factor-analysed from 85 to 72. Following this initial analysis, the multi-item measures were subjected to factor analysis to establish unidimensionality and construct validity.

5.3.2. Behavioural Characteristics: Key Dimensions

The factor analysis for the behavioural dimensions was conducted on 72 multi-item measures. The factor model was respecified three times because during the first and second factor extraction and rotation, variables needed to be eliminated from the factor. The third factor model was conducted to derive a final set of factors. Variables were removed using the criteria stated above. All variables removed from the analysis are discussed below with the relevant factors. After the third respecification a final composition model for the 114 UK international strategic alliances was obtained. The model retained 56 of 72 measures and produced thirteen dimensions of behavioural characteristics. The analysis grouped the variables into thirteen orthogonal factors with eigenvalues greater than 1.0 and explaining 77.1% of the total variance in the data. This figure meets the level suggested in (between 50% and 80%) the literature (see Section 4.6.1.). Therefore the thirteen factors produced can explain the original data. The results of the factor analysis for the behavioural constructs are presented in Table 5.2.

- **Factor 1: Trust in Partner**

As Table 5.2 shows factor one concerns the UK firm's belief in their partner's trustworthiness. This factor correlated with twelve variables and explained 37.4 % of the total variance. This shows trust is the main factor that affects international strategic alliance and accounts for 33.3% of the variance. Trust has also emerged as an important factor of strategic alliances in previous studies (Mohr and Spekman 1994; Pilling and Zang 1992; Smith et al 1995). Nine of the variables came from the eleven original trust variables in the analysis. One trust variable "we share work related problems" did not load on any factor (i.e. loaded below 0.50) and was therefore omitted from the analysis. The trust variable "close and personal ties between partners" loaded on factor nine. Factor one also correlated with one item of commitment "enjoy relationship with partner firm" and two items of coordination, "work as a team with partner" and "regular exchange of ideas between partners". This can be explained by the fact that trust is a major factor in the development of commitment and coordination (Morgan and Hunt 1994; Anderson and Narus 1990). This factor was labelled "trust in partner".

Factors 2, 3 and 4 are all concerned with the issue of commitment in strategic alliances. This suggests that commitment is also an important factor in UK alliance partnerships which provides support for previous studies into international strategic alliance success (Mohr and Spekman 1994; Morgan and Hunt 1994; Gundlach et al 1995;). All four dimensions that were designed to measure commitment loaded on their individual factors.

- ***Factor 2: Commitment to Alliance Goals and Values***

Factor 2 relates to the UK firm's commitment to their international partners in terms of their identification and involvement in the alliance relationship. This factor incorporated eleven of the fifteen variables in the analysis relating to commitment in terms of goals and values loaded on the second factor. Three variables "daily operation of alliance", "strong sense of loyalty to partner", and "strong sense of belonging to partnership" did not load on any factor and were eliminated (i.e. factor loading < 0.5). The variable "alliance partnership is valuable to us" loaded on factor four. The factor accounts for 9.0% of the variance. This factor was labelled "commitment to alliance goals and values".

- ***Factor 3: Committed to make an Effort for the Alliance***

The variables loaded on factor three consisted of seven items relating to the UK firm's willingness to exert effort on behalf of the alliance. All the variables that were designed to measure commitment in terms of obligations to the alliance partner loaded on this factor. Factor three explained 4.9% of the variance. This factor was, therefore, labelled "committed to make an effort for the alliance".

- **Factor 4: Commitment to Stay in the Relationship**

Factor 4 loaded positively on five variables. This factor correlated with four variables from the commitment/motivation dimension and one variable from the commitment/goals and values dimension (alliance partnership is valuable to us). This variable was included in the factor because it was more strongly associated with "commitment to stay in the relationship" than with "commitment to alliance goals and values". The variable "we enjoy our relationship with the partner firm" loaded on the trust factor as already stated. Finally the variable "making short term sacrifices for long term gains" did not load on this factor and was omitted from the analysis. The factor accounts for 4.0% of the variance. This factor relates to the UK firm's motivation to maintain their relationship with their partner and was thus labelled "commitment to stay in the relationship".

- **Factor 5: Information Quality**

Factor five incorporated five of the variables that focused on various aspects of information quality such as the accuracy, timeliness, adequacy, completeness and credibility of information that may be exchanged between the partner firms. These attributes have all been found to be critical in alliance relationships (Mohr and Spekman 1994). This factor accounted for 3.5% of the variance. The variables used to assess information quality loaded positively on one factor and were thus labelled "information quality".

- **Factor 6: Dependency on Partner's Marketing Capabilities**

For interdependency nine variables were included in the factor analysis. This factor loaded on four of the nine variables in the factor analysis. Two variables

“technological expertise” and “manpower resources” were omitted because they did not correlate with any factor. Three variables loaded independently on their own factors (see factors 11, 12, and 13). The variables underlying factor 6 were concerned with the UK firm’s degree of dependency on the partner firm’s marketing capabilities. This relationship has already been observed by previous researchers who have suggested that firms have been forced into such interdependencies because of their need for such resources (Pfeffer and Nowak 1976; Buchanan 1992; Kumar et al 1995). This factor accounted for 3.3% of the variance. This factor was labelled “dependency on partner’s marketing capabilities”.

• ***Factor 7: Mutual Integration between Partner Firms***

The variables loading on to factor 7 are associated with coordination between partner firms and reflected the integration of the partners in the alliance agreement. The two variables, “UK firm well integrated with partner” and “partner well integrated with UK firm” correlated highly with this factor. This suggests that both parties make coordinated efforts for achieving integration within the alliance, supporting Mohr and Spekman’s (1994) finding that coordination is an important factor in successful strategic alliances. Two of the variables from the coordination dimension loaded on to factor one as already stated. Three variables “partner’s activities an extension of UK firm’s activities”, “interaction between alliance managers”, and “keep partner well informed of important decisions” were omitted because they did not load on any factor. This factor accounted for 2.8% of the variance. This factor was labelled “mutual integration between partner firms”.

- **Factor 8: Information Sharing**

Factor 8 loaded on its own three variables concerning the way in which the UK firms communicate information with their partner firms. Informing each other of changing needs had a higher loading on the factor as compared with sharing proprietary information. This indicates that, although UK firms consider the sharing of critical information with their partner as important, being knowledgeable about each other's needs is of greater importance for the effective operation of the alliance (Huber and Daft 1987). This factor accounted for 2.7% of the variance. This factor was labelled "information sharing".

- **Factor 9: Close Relationship**

Factor 9 correlated with two variables. The first variable, "we hold regular meetings with our partner" was taken from the dimension concerning participation in decision making. The remaining four variables of this dimension, "we participate in goal setting"; "we help our partner in planning activities", "we seek partner's advice when making decisions", and "our partner consults us before decision making", were eliminated from the analysis because they did not load on any factor. The second variable which loaded on this factor concerns the variable "there are close personal ties between us and our partner", taken from the trust dimension. Close examination of the two variables that incorporated factor 9 indicated that they reflect a sense of camaraderie between the partners. Accordingly, this factor was labelled "close relationship".

- **Factor 10: Conflict**

The tenth factor deals with the issue of conflict between the alliance partners. This factor loaded on two of the four variables concerning conflict in the analysis. The two variables, "personality conflicts" and "cultural misunderstandings" had a negative significant loading with this factor. This negative correlation suggests that conflicting personalities and cultural misunderstandings do not lead to conflict in the alliance relationship. Previous research has suggested that if conflicts are handled successfully, it can lead to greater trust, commitment and coordination in an alliance relationship (Mohr and Spekman 1994; Monckza et al 1998). This dimension was further reinforced by the fact that trust, commitment and coordination were found to be important factors for the UK alliance partnership. Two variables "conflicting goals" and "distrust" did not load on any factor and were eliminated from the analysis. This factor accounted for 2.3% of the variance. This factor was labelled "conflict".

- **Factor 11; 12; 13 Dependency**

Three variables loaded independently on factors eleven, twelve and thirteen concerning the interdependency between the partner firms. The variable "administrative support" correlated highly with factor eleven and accounted for 2.0% of the variance, "management skills" correlated with factor twelve, accounting for 1.9% of the variance and "financial resources" loaded highly on factor thirteen with 1.8% of the variance. These dimensions were thus labelled accordingly. This has indicated the UK firm's necessity to find a partner which had strategically important management and administrative skills, as well as the financial resources they required.

5.3.3. Construct Validity of Behavioural Dimensions

In an attempt to assess convergent and discriminant validity, an inter-item correlation matrix of all the behavioural constructs was produced. This method allows an assessment of convergent and discriminant validity by comparing within construct and between construct inter-item correlations (see Appendix 4 for correlation matrix). The correlation matrix provided some insights into the convergent and discriminant validity of the behavioural constructs. An examination of the within-construct inter-item correlations revealed high correlations among the measures for each construct, suggesting that each of the behavioural constructs exhibit high convergent validity. Furthermore, an examination of the inter-item correlation matrix revealed that within construct inter-item correlations were greater than between construct inter-item correlation. This was observed for all the behavioural constructs. For example, within-construct correlations for trust ranged from 0.56 to 0.80 while between construct correlations never exceeded 0.20. These results support the behavioural constructs discriminant validity. To confirm the above observation, the Bartlett's test of sphericity was calculated. This test assesses the hypothesis that the correlation matrix is an identity matrix, that is, that the off-diagonal terms of the matrix are all zero. The Bartlett's test was significant at the 0.00 level. This suggests that the matrix is not diagonal and therefore, there are significant correlations between the variables. The KMO measure of adequacy is an index that compares the magnitude of the observed correlation coefficients with the magnitude of the partial correlation coefficients. Small values on the KMO measure mean that the simple correlation coefficient between variables is small and the partial correlation coefficient is large which indicates that correlations between pairs of variables could not be explained by other variables. Applying the KMO test to the present data a 0.84 index was

calculated which indicates a good sampling adequacy. (see section 4.6.1). Both the MSA (0.840) and the significance of the Bartlett Test ($P < 0.001$) suggested a highly stable instrument design.

The factor loadings for the behavioural constructs are shown in Table 5.2. Each of the variables correlates highly on to one of the factors demonstrating adequate convergent validity. Thus the measures discriminate between the different constructs, providing evidence for discriminant validity. In addition, subsequent reliability of the factors indicated the homogeneity of the scales. The coefficients ranged from 0.60 to 0.94 are presented in Table 5.3 which is higher than the 0.05 benchmark suggested by Nunnally (1978) and thus fall within the range of acceptability recommended by Nunnally (1978).

Table 5.3 Reliability Analysis of Behavioural Factor Dimensions

Factor Dimensions	Number of Items	Cronbach's Alpha
Trust in partner	12	.90
Commitment to alliance goals and values	11	.94
Obligations to partner	7	.91
Commitment to stay in relationship	5	.90
Information quality	5	.89
Marketing capabilities of partner	4	.81
Coordination between partners	2	.93
Information sharing	3	.72
Close relationship	2	.61
Conflict	2	.63
Administrative support	1	N/A
Management skills	1	N/A
Financial resources	1	N/A
Total	56	

Two of the factors "close relationship" and "conflict" resulted in lower alpha scores by comparison to the other factors. Prior to the factor analysis, the reliability measure of conflict reported an alpha of 0.70, which is an acceptable measure. The factor

analysis of the conflict dimension resulted in only two out of the four original measures, with negatively correlated factor loadings. However the factor loadings for conflict are above ± 0.50 , the criterion suggested in section 4.6.1. thus strengthening confidence in the resulting factors. An explanation for the low alpha value for "close participation" may be that this factor loaded on only one of the variables from the original dimension measuring participation and one variable from the trust dimension. Therefore, this factor is considered to be a good measure of participation, since most of the variables were eliminated in the analysis.

5.4. Reliability and Validity of the Organizational Constructs

5.4.1 Internal Consistency of the Organizational Constructs

The reliability and validity of the organizational constructs were assessed using the same procedure and techniques as used for the behavioural constructs. The reliabilities for the organizational constructs are presented in Table 5.4 and show sufficient internal consistency. The coefficients range from 0.57 to 0.89, falling within the range of acceptability recommended by Nunnally (1978). Nunnally (1978) reports that 0.50 to 0.60 are the lower bounds of reliabilities for an early stage of research and are sufficient for research. In the case of the structural constructs the alpha scores fall within the lower boundary of acceptable reliability because these measures have not been fully developed in the strategic alliance literature. While previous researchers have developed measures of formalization and centralization that have evidenced reliability, the reliabilities have fallen within the lower domain acceptability. For instance, John and Reve (1982) in their investigation of dyadic relationships in marketing channels revealed an alpha coefficient of 0.52 for

centralization and 0.58 for formalization. In the case of organization of the alliance, the measures are derived from a review of the literature and are thus new measures. Churchill and Peter (1984) have reported that 85% of scales used in marketing studies have Cronbach's alphas of 0.5 or greater and 69% have 0.7 or greater. In Table 5.4 all the scales have alphas greater than 0.5. A few items were deleted because of low item-to-total correlations. These items appeared to decrease the alpha coefficient and were removed from the measure prior to factor analysis. As a result in the case of centralization one variable "both parties participate in joint decision making" was deleted. From the mechanism of control dimension the variables "power of veto", "contractual formal agreement", "technical superiority", and management skills were eliminated. A total of five variables were removed prior to factor analysis. This reduced the total number of items from 30 to 25.

Table 5.4. Reliability Scales for Organizational Characteristics

Organizational Constructs	Original Number of Scale Items	Number of Scale Items after Deletion	Cronbach's Alpha
Formalization	3	3	.57
Centralization	3	2	.65
Complexity	3	3	.57
Focus of control	10	10	.89
Mechanism of control	11	7	.69
Total	30	25	

5.4.2. Organizational Characteristics : Key Dimensions

Factor analysis was applied to 25 organizational measures. The factor model was respecified three times during the first and second analysis, a few variables had to be removed from the analysis. The third factor solution resulted in a final set of factors. All variables removed are discussed below with the relevant factors. The third factor

solution retained 22 of the 25 measures and produced seven dimensions of organizational characteristics. The analysis grouped the variables into seven orthogonal factors with eigenvalues greater than 1.0 and explaining 72.8% of the total variance in the data. The results of the factor analysis for the organizational constructs are presented in Table 5.5. All variables relating to the issue of the focus of control loaded on factors one and two. These two factors accounted for 31.3% of the total variance. This suggests that UK firms may be more concerned with seeking to control activities than the means by which control may be exercised. Previous research has suggested that alliances seek control over specific activities that are strategically important to them (Schaan 1983).

- ***Factor 1: Operational Control***

The first factor loaded on six of the ten variables relating to the issue of the focus of control, explaining 17.4% of the total variance. These variables related to control over specific operational activities. This suggests that control *over distribution facilities, pricing policy, customer support, marketing and sales, manpower management and financial activities* account for the most variance and is thus the main factor that affects international strategic alliances. This control factor was labelled "operational control".

- ***Factor 2: Technological Control***

The second factor correlated with four of the ten variables relating to the issue of the focus of control, explaining 13.9%% of the total variance. These variables reflected control in terms of technological activities. The four variables relate to control over

Table 5.5 Underlying Dimensions of Organizational Factors of International Strategic Alliances

Variables	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6	Factor 7
Control over distribution facilities	.91						
Control over the pricing policy	.85						
Control over customer support	.85						
Control over marketing and sales	.83						
Control over manpower management	.73						
Control over financial resources	.63						
Control over R&D		.89					
Control over product planning		.85					
Control over quality control		.76					
Control over production planning		.74					
Control through planning process			.81				
Control through formal/informal contact			.68				
Control through involvement in planning process			.66				
Control through appointment of personnel			.53				
Control through equity ownership				.85			
Control through board of directors				.86			
All information channelled through designated office					.86		
All contact through alliance managers					.81		
Flexible/inflexible						.82	
Hierarchical/informal						-.81	
Detailed tasks and activities							-.76
Informal understanding							.76

R&D, product planning, quality control and production planning. This was labelled "technological control".

The organizational construct "mechanism of control" was composed of seven variables, which were included in the factor analysis. One of the variables, "regular reporting on performance" was omitted from the analysis because it correlated with more than one factor. Four variables correlated with factor three and two variables correlated with factor four. These two factors together explained 18% of the total variance in the factor analysis.

- ***Factor 3: Informal Control Mechanisms***

Factor three correlated with four variables that reflected the use of informal control mechanisms that may be exercised by the UK firms their strategic alliances. These informal mechanisms of control (*involvement in planning process, teamwork culture, appointment of key personnel and informal and formal contacts between managers*) has been referred to by Schaan (1983) positive control mechanisms, which were used to promote certain behaviours. This factor was labelled "informal control mechanisms".

- ***Factor 4: Formal Control Mechanisms***

Factor four was composed of two variables, which focused on the use of formal mechanisms of control that can be exercised in alliances. These formal mechanisms (*equity ownership and board of directors*) have been described as negative control mechanisms, employed to prevent certain activities and decisions from being

implemented (Schaan 1983). This factor was therefore labelled "formal control mechanisms".

- **Factor 5: Centralized Decision Making**

The fifth factor is related to centralized control of decision making within strategic alliances and correlates highly with the two variables in the analysis (*all information channelled through designated office* and *all contact between firms through alliance managers*). It would appear from this that UK firms may have adopted a centralized approach to the control of information flow and a less participative role in terms of planning activities and decision making. This was further reinforced by the fact that the behavioural measures relating to participation in decision making did not load on any factors. Yoshino and Rangan (1995) from their analysis of interviews with managers in international U.S. strategic alliances found that alliances centralize activities whereby all outgoing and incoming information is controlled by alliance managers. This factor is labelled "centralized decision making".

- **Factor 6: Organizational Complexity of Alliance**

Factor 6 correlated with two of the three variables concerning the organizational complexity of strategic alliance. The variable "hierarchy/informal" negatively correlated with factor six, while the variable "flexible/inflexible" was positively correlated. The variable "complex/simple" did not correlate with any of the factors. In this respect the UK firms would appear to be more informal and flexible in their approach. This factor was labelled "organizational complexity of alliance".

- **Factor 7: Informality**

Factor 7 loaded on two of three variables in the analysis. The variable “both parties follow specific terms and condition of agreement” did not load on any factor and was eliminated from the analysis. Factor seven negatively correlated with “written documents set out detailed tasks and activities” and positively correlated with the variable “partnership is based on a shared informal understanding”. This indicated that UK firms do not follow rules and regulations set out in the agreement and are more informal in their approach. This factor was labelled “informality”

5.4.3 Construct Validity of Organizational Dimensions

A correlation matrix was constructed of the organizational variables (see Appendix 4). The correlation matrix provided some insights into the convergent and discriminant validity of the organizational constructs. The examination of the correlation matrix revealed significant differences between the proposed constructs. The KMO Measure of sampling Adequacy (MSA) and Bartlett Test of Sphericity were calculated. The resultant MSA (0.70) and the significance of the Bartlett Test ($P < 0.001$) also suggested a highly stable instrument design.

The factor loadings are shown in Table 5.5. The results of the factor analysis showed that each item loaded highly on its hypothesized factor, providing evidence of convergent validity. Moreover, the analysis indicated no high cross loadings between the control and structural measures and thus the measures discriminate between the different constructs, providing evidence for discriminant validity. To assess the reliability of the items loading on each factor, (see Table 5.6) an alpha coefficient (Cronbach's alpha) was computed across the items within each factor. The reliability

of the factors indicated the homogeneity of the scales. The results in Table 5.6 indicate that all coefficients ranged from 0.60 to 0.90 except for the factors "organization of alliance" ($r=0.58$) and "formalization" ($r=0.48$) falling within the range of acceptability recommended by Nunnally (1978). These two factors (*organization of alliance* and *formalization*) provided low reliability scores prior to the factor analysis (see section 5.3.1) because reliable and valid measures have not been developed for these constructs in the literature.

Table 5.6. Reliability Analysis of Factor Dimensions

Factor Dimensions	Number of Items	Cronbach's Alpha
Operational control	6	.87
Technological control	4	.88
Informal control mechanisms	4	.67
Formal control mechanisms	2	.70
Centralized decision-making	2	.65
Organization of alliance	2	.58
Formalization	2	.48
Total	25	

5.5. Reliability and Validity Assessment of Success Measures

5.5.1. Internal Consistency of Success

Success of UK international strategic alliances was measured using three multi-item measures and two single item measures (see section 4.5.2. for operationalization of success). The internal consistency of the three multi-item success measures was produced to test their reliability using Cronbach's alpha. Table 5.6 provides the reliabilities for each of the success dimensions. As can be seen, Cronbach's alphas for all three success measures are similar in magnitude and exceed the recommended

level of .70 suggested by Nunnally (1978), thus providing evidence of reliability and stability.

Table 5.7. Reliability of Success Measures

Success Dimension	Number of Items	Cronbach's Alpha
Strategic alliance performance	3	.89
Alliance satisfaction	8	.94
UK firm objectives	3	.94
Total	14	

5.5.2. Factor Analysis of Success Measures

A principal components factor analysis with varimax rotation was performed on the success measures to assess their construct validity. The factor solution was derived from a rotation of 14 variables. The results in Table 5.8 revealed two factors. These were factor (1) alliance satisfaction and factor (2) strategic alliance performance and objectives. In both factors all items loaded above 0.50. Both factors accounted for 75.3% of the total variance.

- **Factor 1: Alliance Satisfaction**

Factor 1 concerns the aspects of the alliance relationship that the UK firm's are satisfied with. All eight variables designed to assess alliance satisfaction in terms of relationship aspects (satisfied with partner in *decision-making*, *partner sharing information*, *partner commitment*, *partner honesty*, *partner assistance in managing alliance activities*, *management interaction* and *compatibility of activities*) loaded positively on one factor. Factor 1 accounted for 39.0% of the total variance.

• **Factor 2 : Strategic Alliance Performance and Objectives**

Factor 2 loaded positively on six variables relating to alliance performance and objectives. The three variables measuring alliance performance (*profitability, sales growth and market share*) correlated positively with the three variables measuring alliance satisfaction in terms of the UK firm's overall objectives (*profitability, market share and sales growth*) to form factor 2. Factor 2 accounted for 36.3% of the total variance.

Table 5.8. Underlying Dimensions of International Strategic Alliance Success Factors

Success Variables	Factor 1	Factor 2
Satisfied with participation in decision-making	.87	
Satisfied with partner sharing information	.84	
Satisfied with management interaction	.81	
Satisfied with partner commitment	.81	
Satisfied with coordination of activities	.80	
Satisfied with partner honesty	.79	
Satisfied with partner assistance in managing alliance	.75	
Satisfied with compatibility of activities	.67	
Market share objectives		.89
Profitability		.88
Profitability objectives		.88
Sales growth objectives		.87
Sales growth		.85
Market share		.81

5.5.3. Construct validity of Success Measures

An examination of the correlation matrix revealed high correlations among the measures of success in factor 1 (*alliance satisfaction with relationship*) which provides evidence for the convergent validity of this measure. Likewise, high convergent validity was also found for the measures of factor 2 (*alliance performance and objectives*). (see Appendix 4 for correlation matrix). An examination of the

correlation matrix also revealed that the measures of factor 1 do not correlate highly with the measures of factor 2, thus providing evidence of discriminant validity.

The KMO result is very high (.904) and the Bartlett's Test of Sphericity is significant ($P < 0.000$) which indicates high stability for the measures. The communality values of the variables are all above 0.6 suggesting that the variances for all the variables are sufficiently by the two factors. The subsequent reliability of the two factors was examined to determine the homogeneity of the scales. The overall alpha for factor 1 was 0.94 and factor 2 was 0.92 which comfortably exceeds 0.70 confirming reliability of the success measures.

The results of the reliability and factor analysis suggest that the two factors that correlated with measures of the success dimensions, (alliance satisfaction with relationship and alliance performance and objectives) have strong internal consistency, are highly correlated and thus have convergent and discriminant validity. Taken as a whole, the subjective measures of international strategic alliance success are good measures of this concept, as shown by the reliability and construct validity tests.

5.6. Summary

This chapter assessed the reliability and validity of the study's constructs. The statistical analyses have provided support for the reliability and validity of the behavioural, organizational constructs central to the study's research model. In

addition analysis conducted on the dimensions of success also produced valid and reliable measures.

CHAPTER SIX

FINDINGS AND DISCUSSION

DETERMINANTS OF SUCCESSFUL AND LESS SUCCESSFUL UK INTERNATIONAL STRATEGIC ALLIANCES

6.1 INTRODUCTION

This chapter will present the statistical tests, findings and analysis of the data used in the study. The first section reports descriptive results regarding the sample of international strategic alliances. General statistics are presented on the sample of international strategic alliances, including the number of alliances formed, nationality of foreign partner, industry sector, type of alliance, function of alliance, motives, alliance formation, frequency and mechanisms of contact used in alliances and alliance survival. The second section reports the tests of the propositions of the study. Three separate tests were carried out. First t-tests were reported to test the differences between successful and less successful international UK alliances among the behavioural and organizational

characteristics. Second the findings were tested with multivariate discriminant analysis to determine the most significant behavioural and organizational that discriminate between successful and less successful UK alliances. Finally the propositions were tested using multiple regression analysis in an attempt to establish which of the behavioural and organizational characteristics accurately predicts alliance performance.

6.2 SAMPLE CHARACTERISTICS OF UK INTERNATIONAL STRATEGIC ALLIANCES

6.2.1 Number of Strategic Alliances Formed

Table 6.1 shows that a total of 114 alliances were entered into by the 93 UK firms in this sample during the period 1988 to 1995. As can be seen from Table 6.1 the highest number of responses came from strategic alliances formed in 1995. This may be because these alliances were fairly new and still in operation at the time of data collection in 1998.

Table 6.1 Year of International Strategic Alliance Formation

Year	Frequency	Percentage Total
1988	12	10.5%
1989	12	10.5%
1990	9	7.9%
1991	13	11.4%
1992	13	11.4%
1993	15	13.2%
1994	9	7.9%
1995	31	27.2%
Total	114	100.0%

Furthermore, it could be that managers involved in the alliance were available to complete the questionnaires. The higher representation of responses for 1995 may also be attributed to the fact that these constituted the majority in the population sample for the survey (see section 4.3.1).

6.2.2 Nationality of Foreign Partner

The population sample of 450 alliances that agreed to participate in the research included alliances from the USA, Japan, France, Germany and Italy. All three regions were represented in the population sample (see section 4.3.2). Yet as can be seen from Table 6.2 of the 114 responding UK international alliances the majority of responses came from alliances that entered into partnerships with firms from the USA (approximately 40%).

Table 6.2 International Strategic Alliances entered into by UK Firms

Partner Nationality	Frequency	Percentage Total
USA	45	39.5%
Japan	28	24.7%
France	15	13.2%
Germany	15	13.2%
Italy	8	7.0%
USA/Japan	1	0.9%
Germany/France/Italy	1	0.9%
Germany/France	1	0.9%
Total	114	100.0%

Approximately 33% of responses included alliances from France, Germany and Italy and 25% involved Japanese firms. There were also three responses that involved more than one country (i.e. consortia). The number of countries represented in the population sample of 450 alliances is fairly representative in the responding 114 alliances (see section 4.3.2). In the population sample 40.8% of

alliances are represented by US partners compared to 39.5% of US partners in the responding sample. Similarly Japan constitutes 19.6% and France, Germany and Italy make up 37.1% of the population sample compared to 24.5% of Japanese alliances and 33.4% alliances representing France, Germany and Italy in the responding sample. The small number of consortia represented in the responding sample can be accounted for by the fact that there were only a total of eleven consortia in the population sample.

6.2.3 Industry

Table 6.3 shows a breakdown of the responses received from the population sample of strategic alliances by industry.

Table 6.3 Industry Sector of International Strategic Alliances

Industry Sector	Frequency	Percentage Total
Financial Services	17	14.9%
Pharmaceutical	6	5.3%
Construction and Property	12	10.5%
Food and Drink	5	4.4%
Engineering	1	0.9%
Electronic and Technology	3	2.6%
Heavy Industry	9	7.9%
Aerospace	5	4.4%
Telecommunications	7	6.1%
Automotive	7	6.1%
Chemical	8	7.0%
Leisure and Entertainment	5	4.4%
Business and Information Services	10	8.8%
Transport	5	4.4%
Utility	5	4.4%
Retailing	5	4.4%
Advertising	3	2.6%
Other	1	0.9%
Total	114	100.0%

The 114 alliances were classified according to the industry sector of the UK firm.

The majority of responses received were from strategic alliances concentrated in

the financial services (14.9%), construction and property (10.5%) sectors and business and information services (8.8%). These alliances constituted the most number of alliances in the population sample for this study. Table 6.3 has shown that most other alliances are fairly evenly distributed, the only two exceptions being engineering and the other category which were less than 1%.

6.2.4 Type of Alliance

The majority of responses received constituted 50/50 joint ventures, with seventy five of the alliances involving some sort of equity (see section 4.3.2). Table 6.4 indicates the majority of responses received from alliances involved some sort of equity. Only 25% of responses included strategic alliances involved in contractual agreements, while a small number of responses included consortia. This characteristic is consistent with the most common patterns of division of equity in developed country joint ventures (Beamish 1993).

Table 6.4 Type of International Strategic Alliance

Type of Alliance	Frequency	Percentage Total
50:50 Joint Venture	40	35.1%
Majority Equity	22	19.3%
Minority Equity	13	11.4%
Contractual Agreement	29	25.4%
Consortium	10	8.8%
Total	114	100.0%

6.2.5 Alliance Function

Strategic alliances are set up to perform specific activities regardless of their equity structure (Terpstra and Simonin 1993; Yoshino and Rangan 1995). Based

on the literature the function of a strategic alliance was categorised into six different categories: joint marketing agreement, joint manufacturing, joint product development, joint R&D agreement, shared distribution services and an other category (Ghemewat et al 1986; Tepstra and Simonin 1993; Yoshino and Rangan 1995). This information was not available from secondary sources. The respondents have indicated that UK international strategic alliances are formed to perform many functional activities.

Table 6.5 Function of International Strategic Alliance

Function of Alliance	Frequency	Percentage Total
Marketing	27	23.8%
Manufacturing	16	14.0%
Product Development	7	6.1%
R&D	2	1.8%
Shared Distribution	13	11.4%
Marketing/Product Development	3	2.6%
Marketing/Distribution	10	8.8%
Marketing/ R&D	2	1.8%
Marketing/Manufacturing	2	1.8%
Product Development/Distribution	1	0.9%
Marketing/R&D/Product Development	2	1.8%
Marketing/Manufacturing/Product Development	5	4.4%
Manufacturing/R&D	1	0.9%
Marketing/Service Provision	4	3.5%
Service Provision	4	3.5%
Account Service	1	0.9%
Investment Fund	1	0.9%
Product Expertise	1	0.9%
Property Development	2	1.8%
Investment	2	1.8%
New Plant	1	0.9%
Credit Card Issuer	1	0.9%
Market Presence/Service Provision	1	0.9%
Construction	4	3.5%
Expansion/Diversification	1	0.9%
Total	114	100.0%

Over 57% of the alliances formed were engaged in only one of the activities listed in Table 6.5. The majority of these were involved in marketing activities. This

clearly indicates that UK firms engage in international strategic alliances primarily for market oriented purposes. In 26% of the cases, the alliances were involved in more than one activity. The remaining 16% of alliances were formed for specific activities in the Service Sector, such as construction, property development, investment service provision.

6.2.6 Motives for Alliance Formation

Table 6.6 summarises the motives of the 114 responding firms. The analysis focuses on the UK firm's motives for entering in to strategic alliance agreements with firms from the USA, Western Europe and Japan. Table 6.6 has indicated that UK firms are motivated by a multiple of factors when forming international strategic alliances with international firms. The results indicate that "costs and risks of market entry" was the most important motive for UK international alliances with a mean of 3.29. The spreading of financial risk is frequently cited as a fundamental motive for the formation of international strategic alliances (Porter and Fuller 1986; Contractor and Lorange 1988; Hladik 1988). It has been pointed out that in many industries, the development of new products can be very expensive with high risks involved. Strategic alliances allow firms to reduce their financial exposure to the costs and risks of R&D (Hladik 1988). Transaction cost explanations for strategic alliances also emphasize that alliances are a means of reducing costs and risks.

The "need to gain access in to a foreign market" (3.15), was the second most important motive for UK international strategic alliances and "the opportunity to improve market share" (3.04), was the third most important motive. Forming

international strategic alliances to facilitate access to new markets and gain market share are major reasons for firms to cooperate (Harrigan 1985). This suggests that UK firms engage in international strategic alliances mainly to gain faster market entry which would enable them a quicker presence in the foreign market (Contractor and Lorange 1988). Glaister and Buckley (1996) identified gaining presence in new markets as the highest ranked motive for UK firms forming international alliances.

Table 6.6 Motivations for International Strategic Alliances

Motive	Frequency Important	Mean score
Costs and Risks of market entry	60 (52.6%)	3.29
Access to overseas market	54 (47.4%)	3.15
Improve market share	51 (44.8%)	3.04
Distribution channel of partner	46 (40.4%)	2.68
Marketing skills of partner	45 (39.5%)	2.90
Management skills of partner	39 (34.2%)	2.87
International competition	39 (34.2%)	2.71
Costs of operating in market	38 (33.3%)	2.67
Costs and risks of NPD	35 (30.7%)	2.61
Costs of distribution networks	35 (30.7%)	2.38
Economies of scope	34 (29.8%)	2.50
R&D capability of partner	32 (28.1%)	2.38
Technological competition	27 (23.7%)	2.19
Economies of scale	26 (22.8%)	2.21
Costs of R&D	26 (22.8%)	2.13
Shorter product life cycle	15 (13.2%)	1.78

Scale 1=not at all important, 5= very important

The mean score for each motive is shown in the relevant column

The next three most important motives include "distribution channels of partner" (2.68), "marketing skills of partner" (2.90), and "management skills of partner" (2.87). Although the results indicated that the acquisition of skills are fairly important, the majority of UK firms considered them to be less important. This result is not surprising since it has been suggested that Western firms primarily collaborate to reduce costs and risks (Hamel et al 1989) and not to enhance their

technologies and acquire new skills. UK international alliances also considered other motives relating to costs such as costs of operating in the market (2.67), costs and risks of NPD (2.61), costs of distribution (2.38) and costs of R&D (2.13). Other motives which appear to be less important include "international competition", "technological competition", and "economies of scale and scope".

6.2.7 Frequency and Mechanisms of Contact

The results of Table 6.7 indicate that personal face to face contact (76.3%) and contact by telephone, using memos and written reports (76.3%) is very high. This mode of contact has been cited as being the "most rich" (Mohr and Nevin 1990). The frequency of contact is also high, with 71.9% of alliances keeping in contact on a daily and weekly basis.

Table 6.7 Frequency of Contacts and Contact Mechanisms Used

Contact Mechanism	Important		Frequency of Contact	Frequency	
Personal face to face discussions	87	76.3%	Daily	42	36.8%
Letters, memos, written reports	58	50.9%	Weekly	40	35.1%
Telephone calls	87	76.3%	Monthly	18	15.8%
Group / Committee meetings	55	48.3%	Quarterly	7	6.1%
Board meetings	51	44.7%	½ Yearly	0	0.0%
			Yearly	1	0.9%
			No set frequency	6	5.3%
			Never	0	0.0%

Scale 1=not at all important, 5=very important

The "Important" category represents the sum of 4 and 5 on the scale

This suggests that managers involved in the alliance communicate regularly. Ruekert and Walker (1987) found that the higher the frequency of contact, the less likely they are to encounter difficulty in communicating effectively. This does suggest that UK international alliances, which are in contact regularly, are communicating more frequently, coordinating their efforts and there is less

conflict. There were only 15.8% of alliances who kept in contact on a monthly basis and there were no alliances that never kept contact.

6.2.8 Survival and Age of Sample alliances

Eighty-four of the 114 strategic alliances (73.7%) were still in operation at the time of the data collection in 1997/1998. Table 6.9 shows that 30 alliances were terminated. More than half of these 30 non-surviving alliances had ceased operation within four years of being formed.

Table 6.8 Terminated International Strategic Alliances

Alliance Age	Terminations	Termination Reason	Terminations
1 - 2 Years	9	Acquisition	7
3 - 4 Years	9	Performance below expected	3
5 - 6 Years	9	Objectives not met	2
7 - 9 Years	3	Disagreements	1
		Project Completed	8
		Other	9
Total	30		30

This does not indicate that the alliances were terminated because they failed, since only six of the 30 alliances ceased due to reasons of disagreements, objectives not being met and low levels of performance. Of the remaining 24 alliances, seven were terminated because of acquisitions and eight came to an end because the alliance project had been completed. The nine remaining alliances gave no reason for their termination. The results in Table 6.9 also show that 60% of terminated alliances ended within four years compared to 40% of terminated alliances being dissolved after five years.

6.2.9 Future of Alliance

Of the 114 UK international strategic alliances, 31 (27.2%) alliances had agreed on a termination plan. These 31 alliances which agreed on a termination plan include the 30 terminated alliances. Of the remaining 83 alliances, approximately 16% were undecided on the future of their alliance compared to 57% of alliances in which both parties anticipated a long-term relationship. It has been suggested that alliances that agree on a date of termination are the most satisfied (Taucher 1988). Over 50% of the alliances had anticipated a long-term relationship. It has been suggested that long-term relationships enhance the performance of alliances. Anderson and Weitz (1992) refer to long-term arrangement in a relationship as "commitment" and indicate that mutual commitment results in independent firms working together to serve customer needs better and increase mutual profitability.

Table 6.9 Time Period of International Strategic Alliance Partners

Time Period	Frequency	Percent
Both agree on termination plan	31	27.2%
Undecided	18	15.8%
Both anticipate long-term relationship	65	57%
Total	114	100.0%

Scale 1=Both agree on termination, 5=Both agree long-term

Both agree on termination represents 1 and 2 on the scale

Both agree on long-term relationship represents 4 and 5 on the scale

6.3 UK INTERNATIONAL STRATEGIC ALLIANCE

6.3.1 Alliance Performance

In rating the success of UK international strategic alliances in the current study, two measures of alliance success were applied (see section 4.5.2 for measures

used and see questions 37, 38, 39, 40 and 42 in Appendix 2). Respondents to the survey were asked to evaluate the performance of the alliance by, first, indicating which of the eleven (see Table 6.10) criteria they used to evaluate performance and, second, in terms of these criteria, indicate the success of the alliance. The results in Table 6.10 suggest that market share, sales growth and profitability are the most important criteria used by UK firms engaged in international strategic alliances since all 114 respondents used them as criteria for evaluating the performance of the alliance. Furthermore, approximately 57% of alliances were successful in terms of market share, sales growth and profitability. Approximately 20% of UK firms indicated that their alliances were unsuccessful in meeting market share, sales growth and profitability targets and just over 22% confirmed that moderate success had been achieved. These results indicate that UK firms engaged in international alliances appear to exhibit high performance in terms of these three criteria. This would suggest that securing profits, market share and sales growth are important performance criteria for UK firms engaged in international strategic alliances. Previous researchers have identified these three indicators as reliable subjective measures of performance (Schaan 1983; Artisien 1985; Geringer and Herbert 1991; Dussauge and Garrette 1994).

Over 50% of the 114 respondents considered access to market, competitive position, return on investment and marketing as being important criteria for evaluating alliance performance. These respondents indicated that the performance of the alliance was more successful in terms of access to market, competitive positioning, marketing and return on investment than less successful.

For the rating of cost control, technology development, product design and distribution, just over 40% of the respondents considered these criteria in their evaluation of alliance performance. However, despite these criteria being regarded as significant for approximately 40% of the respondents, more than half of these respondents considered the performance of the alliance to be successful in terms of technology development, cost control, product design and distribution.

Table 6.10 Descriptive Results of UK International Strategic Alliance Performance

Performance Measure	Respondent	Successful in terms of Performance	Moderate Success with Performance	Unsuccessful in terms of Performance	Too early to Comment
Market share	114	65 (57%)	26 (22.8%)	23 (20.0%)	-
Sales growth	114	65 (57%)	32 (28.1%)	17 (14.9%)	-
Profitability	114	64 (56.2%)	27 (23.7%)	23 (20.2%)	-
Access to market	80	49 (61.3%)	17 (21.3%)	10 (12.5%)	4 (5.0%)
Cost control	48	19 (39.6%)	11 (22.9%)	14 (29.2%)	4 (8.3%)
Competitive position	74	32 (43.3%)	16 (21.6%)	18 (24.3%)	8 (10.8%)
Technology development	43	26 (60.5%)	8 (18.6%)	6 (14.0%)	3 (7.0%)
Product design	42	23 (54.8%)	10 (23.8%)	7 (14.3%)	2 (4.8%)
Marketing	60	27 (45.0%)	16 (26.7%)	13 (21.7%)	4 (6.7%)
Distribution	35	16 (54.7%)	10 (28.6%)	6 (17.1%)	3 (8.6%)
Return on investment (ROI)	72	27 (37.5%)	13 (18.1%)	18 (25.0%)	14 (19.4%)

Scale 1=very unsuccessful, 5=very successful

The above findings suggest that, in assessing alliance performance, operational aspects such as technology development and cost control are utilized by UK partners and result in higher performance for UK international alliances compared to for example marketing. This finding is inconsistent with that of Glaister and Wu (1994) who found that operational areas resulted in the highest performance for UK partners engaged in alliances with firms from China compared to sales and marketing which resulted in lower performance. It should be noted that Glaister and Wu's (1994) sample consisted of only 21 UK international joint ventures

The above results suggest that profitability, market share and sales growth appear to be the primary criteria used for evaluating alliance performance by UK firms engaged in international alliances. Furthermore, profitability, market share and sales growth would appear to be sufficient for measuring the performance of the alliance since all 114 respondents have indicated their use of this measure over all other measures. This finding is inconsistent with that of Glaister and Wu (1994) who suggested that profitability, market share and sales growth are not measures which are mostly utilized by UK international alliances. In terms of the other criteria listed in Table 6.10, it would be unrealistic to suggest that these criteria are less important for UK international alliances. Rather, it would be more appropriate to maintain that UK international alliances' evaluation of success along these criteria are reflected by their interest in these areas. These findings suggest that on the whole, UK international alliances have been successful in their performance in terms of their primary alliance success criteria (profitability, market share and sales growth) as well their less important success criteria. The results also suggest that performance is not evaluated on economic criteria alone and that a range of performance indicators can be utilized, all of which have been shown to be significant in the success of UK international strategic alliances.

A number of important conclusions can be drawn from the data represented in Table 6.10 to understand what alliance performance means to UK firms engaged in international alliances. The results have shown that there is no single criterion that is applicable to all alliances. It appears that UK alliances measure success along criteria that reflect their goals and objectives. Secondly UK alliances take into consideration a number of criteria rather than just one. As the data in Table

6.10 indicates, all of the 114 respondents used a combination of criteria to measure the performance of their alliance. The implication here may be that alliance performance does not mean the same thing to all firms. While they are assessing their alliances with a multiplicity of goals and objectives, the findings indicate that profitability, market share and sales growth appear to be the primary criterion used by UK firms when assessing alliance performance and alliance satisfaction.

6.3.2 Alliance Satisfaction

- **Satisfaction with the Relationship**

Alliance satisfaction was assessed by asking respondents to indicate their satisfaction with certain aspects of the alliance relationship with their partner firm. The results in Table 6.11 indicate that the level of honesty of the partner firm is a very important factor for UK firms and that UK firms were most satisfied (62.3%) with this aspect of their relationship. Approximately 57% of UK partners were satisfied with the alliance relationship in terms of the level of commitment shown by their international partners and by the level of interaction between managers. UK partners appear to be less satisfied with the coordination of activities, compatibility of activities, participation in decision-making, sharing information and partner assistance in managing alliance activities, for which less than 50% of the respondents were satisfied. However, overall UK alliances were more satisfied with these aspects of the relationship than less satisfied.

The above results suggest that the success of UK international alliances is not just determined by profitability, market share and sales growth. It also means having

trust and commitment in your partner as well as a high level of interaction between managers. Satisfaction with certain aspects of an alliance relationship has been investigated by previous researchers (Ruekert and Walker 1984; Mohr and Spekman 1994) and has shown that satisfaction with certain aspects of the alliance relationship between partners can serve as a proxy for partnership success (Mohr and Spekman 1994).

Table 6.11 Descriptive Results for UK International Strategic Alliance Satisfaction with Alliance Relationship

Satisfaction Measure	Respondent	Satisfied with Relationship	Moderate Satisfaction	Not Satisfied with Relationship
Coordination of activities	114	53 (46.5%)	40 (35.1)	21 (18.4%)
Level of interaction between managers	114	65 (57%)	31 (27.2%)	18 (15.8%)
Compatibility of activities	114	54 (47.3%)	40 (35.1%)	20 (17.5%)
Participation in decision-making by partner	114	55 (48.2%)	31 (27.2%)	28 (24.6%)
Level of commitment shown by partner	114	65 (57.1%)	23 (20.2%)	26 (22.8%)
Partner sharing information	114	43 (37.7%)	37 (32.5%)	34 (29.8%)
Partner assistance in managing alliance activities	114	54 (47.4%)	37 (32.5%)	23 (20.2%)
Level of honesty shown to your firm	114	71 (62.3%)	24 (21.1%)	19 (16.7%)

Scale 1=very dissatisfied, 5=very satisfied

- **Satisfaction with Overall Objectives**

Another assessment of alliance satisfaction measured the extent to which the objectives of the UK firms had been met in terms of five criteria: profits, market share, sales growth, market development and product development. The results in Table 6.12 suggest that all 114 respondents indicated that their firm's overall objectives were determined by profits, market share and sales growth compared to 96 respondents using market development and 92 respondents using product development as criteria for measuring overall objectives met. It appears that profits, market share and sales growth are dominant objectives and source of

satisfaction for UK international strategic alliances. Furthermore, UK international alliances are in agreement on using profits, market share and sales growth as measures of alliance satisfaction in terms of overall objectives met. These results are interesting, since earlier it was indicated that profitability, market share and sales growth are also employed as the primary indicators of performance measurement in UK international alliances.

Table 6.12 Descriptive Results for UK International Strategic Alliance Satisfaction with Meeting Alliance Objectives

Satisfaction Measure	Respondents	Satisfied	Moderate Satisfaction	Not Satisfied
Profits	114	59 (51.7%)	26 (22.8%)	29 (25.4%)
Market share	114	61 (53.5%)	30 (26.3%)	23 (20.2%)
Sales growth	114	57 (50%)	33 (28.9%)	24 (21.1%)
Market development	96	44 (44.0%)	31 (31.0%)	21 (21.0%)
Product development	92	40 (43.0%)	24 (25.8%)	28 (30.1%)

Scale 1=not at all, 5=very well

- **Satisfaction with Overall Alliance Performance**

Respondents were asked to indicate their level of satisfaction with the overall performance of the alliance (see Table 6.13). All 114 UK international alliances responded to the questionnaire item that measured satisfaction with overall performance of the alliance. Of the 114 respondents approximately 52% were satisfied with the overall performance with 25% being just moderately satisfied and less than 23% not satisfied. These findings are similar to the results of alliance performance and satisfaction with objectives. Over 50% of respondents reported that their alliances were performed successfully compared to no more than 20% of alliances whose performance was below expectations. Similarly over 50% of respondents reported satisfaction with overall objectives in terms of profits,

market share and sales growth, with no more than 25% reporting dissatisfaction with these same objectives. Therefore, satisfaction with the alliance's overall performance strengthens the effectiveness of the results of the other success criteria by suggesting that overall the UK partners are satisfied with their international strategic alliances which also appear to enjoy higher performance levels.

Table 6.13 Descriptive Results for UK International Strategic Alliance Satisfaction with Overall Performance of the Alliance

Satisfaction Measure	Satisfied	Moderate Satisfaction	Not Satisfied
Overall Performance	59 (51.7%)	29 (25.4%)	26 (22.8%)

Scale 1=very dissatisfied, 5=very satisfied

- **Perception of Partner Satisfaction**

As a final way of assessing alliance satisfaction, UK respondents were asked to indicate their perception of their partner's satisfaction with the performance of the alliance (see Table 6.14). According to the UK firms, their international partners are generally more satisfied (52.6%) and moderately satisfied (28.1%) with performance than less satisfied (19.3%). These findings are similar to the UK partner's own perception of alliance satisfaction which suggests that their international partners are also satisfied.

Table 6.14 Descriptive Results for UK Firms Perception of Partner Satisfaction

Satisfaction Measure	Satisfied	Moderate Satisfaction	Not Satisfied
Partner satisfaction	60 (52.6%)	32 (28.1%)	22 (19.3%)

Scale 1=Very dissatisfied, 5=Very satisfied

6.3.3 Summary: Alliance Success

The above discussion has indicated how UK firms engaged in international strategic alliances measure success. The findings suggest that UK international strategic alliances appear to have higher levels of performance and are more satisfied than less satisfied with the success of their alliances.

In trying to develop an understanding of how success is measured by UK international alliances, the results have suggested that there is no single success measure which is used by UK firms and that a combination of criteria are used. This is not surprising since the 114 UK international alliances in this study constituted a range of strategic alliances formed across a wide range of industries. It would be expected that criteria used by one alliance are different to criteria used by another alliance since each will have their own goals and objectives. However, the findings have indicated that there is consistency across all UK international strategic alliances in their use of profitability, market share and sales growth measures. As a result these three measures will be combined to form a single success measure for subsequent analysis. This issue will be discussed in the next section.

6.4 CLASSIFICATION OF UK INTERNATIONAL STRATEGIC ALLIANCES BY SUCCESS

UK international strategic alliances were categorised as successful and less successful prior to the t-tests, MDA and regression analysis. Information was obtained on the success of UK international strategic alliances through responses to a mail questionnaire. The sample of 114 UK international strategic alliances

that responded to the questionnaire were split into two groups: successful and less successful UK international strategic alliances based on the mean aggregate scores of the measures that examined alliance success. Data was collected on perceived *alliance performance* and *alliance satisfaction* (see section 4.5.2.). In terms of perceived performance alliances were classified according to profitability, market share and sales growth (see section 6.3). These three measures were common to all the respondents who completed the questionnaire and thus appear to be the most popular indicators of alliance performance for UK international strategic alliances. To provide an overall measure of alliance success the average score on all three performance variables was computed. A mean value for each alliance was computed. A successful alliance group and less successful alliance group were defined, where alliances with a score above "3.5" were considered successful and alliances that scored below "3.5" were considered less successful. This procedure resulted in 64 (56.1%) alliances being classified as successful and 50 (43.9%) alliances being classified as less successful. Previous researchers (Doyle et al 1992; Shaw 1994) have used this approach.

The above classification was also used to categorize alliance satisfaction measures. As already described in section 4.5.2 alliance satisfaction was assessed using four measures. For the first measure, *satisfaction with the relationship* a mean score was computed for 114 respondents along eight dimensions. Based on the mean aggregate scores the 114 respondents were split into 60 (52.6%) successful and 54 (47.4%) less successful alliances. Similarly, the second measure, *satisfaction with overall performance* using the same procedure was classified in to 59 (51.8%) successful alliances and 55 (48.2%) less successful

alliances. For a third measure, *satisfaction with alliance objectives* a mean score was computed for three dimensions (*profits, market share and sales growth*) and a classification of 59 (51.8%) successful and 55 (48.2%) less successful alliances was obtained. Finally, the measure *partner satisfaction* was categorized in to 60 (52.6%) successful alliances and 54 (47.4%) less successful alliances. An analysis of the success of each individual international strategic alliance showed that there was little variation in classification between each of the different success measures. This suggests that over 50% of the sample of international alliances examined appear to be successful.

As stated in section 6.1 the propositions of the study will be tested using t-test, multivariate discriminant analysis and multiple regression. For both the t-tests and MDA, the computed mean score for both *alliance performance* and *alliance satisfaction* measures will be used in the analysis. For the regression analysis, each single measure of both dependent variables will be used rather than a mean score (see section 6.8). While the data will be analysed using both dependent variables (*alliance performance* and *alliance satisfaction* measures) the results in this chapter will only be reported for the dependent variable *alliance performance* because of the extent of the results. The findings for *alliance satisfaction* can be found in Appendix 5.

6.5 INDEPENDENT VARIABLES: BEHAVIOURAL AND ORGANIZATIONAL CHARACTERISTICS

In measuring international strategic alliance success it has been argued that there are several dimensions of behavioural attributes linked to alliance success (Mohr

and Spekman 1994; Cravens and Shipp 1993; Monczka et al 1998). Considerable research has been devoted to identifying these alliance attributes. Empirical research has linked alliance success to commitment and trust (Mohr and Spekman 1994; Anderson and Narus 1990; Morgan and Hunt 1994), coordination (Mohr and Spekman 1994), interdependence (Buchanan 1992) and communication (Mohr and Nevin 1990). The organizational attributes of this study (see section 2.5.2) included structure and control. The issue of control has been shown to be a critical factor that determines how firms can be successful in the alliances they form (Geringer and Herbert 1989; Mjoen and Tallman 1997). There has been very little empirical work that has addressed how the structure of the alliance can affect the performance.

Although a factor analysis (see chapter five) resulted in a reduced set of variables the analysis emphasised the aggregation of all the behavioural and organizational variables associated with each of the independent variable concepts. That is the factor analysis determines the grouping of variables based on the correlation between the variables. Each factor generated considers only those variables with higher factor loadings, omitting variance associated with variables having weak loadings and ignoring sample variance that has not been included in the factor solution. As a result factor interpretations are based on a portion of the sample variance that has been systematically isolated rather than on the total variance in the original sample (Kim and Mueller 1982; Hair et al 1998). Furthermore, the preliminary data analysis included only multi-scale items. It was felt that summarizing the variables would result in a loss of potentially valuable information for understanding the characteristics of each group. The t-test will

compare the amount of variability due to the predicted differences in scores between the two groups against the total variability in respondents scores. Thus the t-test will take into account the size of the difference between the means for the two groups, taking the total variance in to account. For the t-test analysis, 123 out of the total 126 behavioural and organizational variables were included. Three variables (*product planning, production planning and R&D*) were omitted from the t-test analysis because of missing data. The t-test using SPSS does not account for missing values and thus these variables had to be excluded.

Similarly raw data was also used with the MDA because it has been suggested that factor scores from a factor analysis cannot be used in MDA because a poor representation of the true data structure would be obtained. Furthermore, in using raw data for the t-tests and MDA represents consistency in data analysis. For the regression analysis however, the factor scores were used because of issues of multicollinearity. The impact of multicollinearity is to reduce an independent variables predictive power by the extent to which it is associated with other independent variables. As the correlation between two or more independent variables increases, the unique variance explained by each independent variable decreases and all but one provide redundant information and thus each uniquely contributes little to the predictive power of the dependent variable (Hair et al 1998; Afifi and Clark 1996). In order to maximize the prediction from a given number of independent variables, the independent variables should have low multicollinearity with the other independent variables but also have high correlations with the dependent variable (Hair et al 1998). The factor analysis produced factor scores for both the behavioural and organizational measures,

which the independent variables are highly correlated with other independent variables in the same factor, but not highly correlated with independent variables from other factors. Therefore, the problem of multicollinearity can be evaded when the regression models were tested.

6.6 DIFFERENCES BETWEEN SUCCESSFUL AND LESS SUCCESSFUL UK INTERNATIONAL STRATEGIC ALLIANCES

The first step in examining the data prior to the multiple discriminant analysis (MDA) and regression analysis was to test the propositions concerning the behavioural and organizational determinants of international strategic alliance success using t-tests. The means, standard deviations and the t-tests for the other success measures showed similar results and will not be discussed here. The results of these tests can, however, be found in Appendix 5.

6.6.1 Partnership Attributes

6.6.1.1 Level of Coordination

Proposition 1: The level of coordination between partners will be higher for successful UK international strategic alliances compared with less successful international strategic alliances.

Respondents were asked to describe the level of coordination between their firm and their partner firm. The results in Table 6.15 reveal that there are significant differences between successful and less successful UK international strategic

alliances in terms of coordination. This suggests that UK international alliances that have higher alliance performance have a higher level of coordination than UK international alliances that characterized by lower performance. Thus coordinated partners are more successful in terms of market share, sales growth and profitability. Ten of the 11 characteristics (*teamwork with partner, exchange of ideas with partner, partner activities are an extension of the UK firm's activities, interaction between managers, partner informed of important decisions, partner integrated with UK firm, UK firm integrated with partner, coordinated activities, working together to achieve objectives, goals/objectives consistent with partner*) of coordination show a significant difference between successful and less successful international alliances. Eight of these ten characteristics exhibited high reliability (see section 5.3). Three of the characteristics were not tested for reliability because they were single-item measures (*coordinated activities, working together to achieve objectives and goals/objectives consistent with partner*).

The mean scores against all the variables were higher for successful UK alliances, except the variable *strategic fit* for which no difference was found (see Table 6.15). The variable *strategic fit* had a low item-to-total correlation in the reliability analysis (see section 5.3) and thus it appears that this characteristic of coordination is not effective in differentiating between successful and less alliances. The *exchange of ideas between partners* (mean=4.08) and *we keep our partner well informed of important decisions* (mean=4.05) appear to be the most highly rated characteristics of successful alliances.

Table 6.15 Differences in the Level of Coordination between Successful and Less Successful UK International Strategic Alliances in terms of Performance

Coordination	Successful Group		Less Successful Group		Difference	
	Mean	SD	Mean	SD	T value	Sig
Teamwork with partner	3.88	0.95	2.90	1.04	5.22	.000*
Exchange of ideas with partner	4.08	0.88	3.00	1.05	5.97	.000*
Strategic fit	2.36	1.00	2.64	1.08	-1.43	Ns
Partner activities an extension of UK firm's activities	3.20	1.31	2.40	1.29	3.26	.001*
Interaction between managers	3.77	1.11	2.96	1.21	3.70	.000*
Partner informed of important decisions	4.05	0.9	3.42	0.99	3.52	.001*
Partner integrated with UK firm	2.95	1.20	2.24	1.06	3.31	.001*
UK firm integrated with partner	2.92	1.17	2.12	1.02	3.83	.000*
Coordinated activities	3.84	0.86	2.28	1.10	5.58	.000*
Working together to achieve objectives	3.66	0.88	2.92	1.01	4.17	.000*
Goals/objectives consistent with partner's	3.81	0.89	2.94	1.08	4.74	.000*

Scale 1=Not at all well; 5=Very well

*Difference significant at the 0.001 level

This suggests that exchanging ideas and keeping each other informed about important decisions are probably necessary for the partners in coordinating their activities to achieve their mutual objectives. This may depend on how closely each partner's activities are coordinated, how well the different functional groups of each party work as a team towards achieving the objectives of the alliance and the level of interaction and integration between the partner's. This suggests that successful UK alliances are more likely to coordinate their activities compared to less successful UK alliances in order to achieve their objectives. Thus, there is strong support for the proposition that successful UK international strategic alliances are more likely to be coordinated compared to less successful alliance.

As suggested in the literature review, there has been little investigation of coordination and its impact on the success of international strategic alliances. The

findings of this study are consistent with that of Mohr and Spekman (1994) and Monckza et al (1998) both of whom found coordination as a significant predictor for successful alliances. However Mohr and Spekman (1994) used two measures of coordination in their analysis for which the reliability was satisfactory ($r=0.68$). Monckza et al (1998) relied on one single measure of coordination. Both studies investigated dealer-supplier type relationships and the measure of coordination was applied in this context. Therefore, Mohr and Spekman (1994) and Monckza et al (1998) have not fully tapped the coordination dimension by failing to identify some of the critical attributes of coordination that may be associated with successful alliances that have been identified in the current study. Furthermore, neither study found significant differences between successful and less successful international alliances in terms of the level of coordination. The scales used in the current study showed a high level of reliability ($r=0.88$) and thus provide encouraging evidence about the utility of these measures. Thus the current study provides greater empirical support that more successful UK international alliances exhibit a higher level of coordination than less successful international alliances.

While managers of successful performing international strategic alliances need to realize the benefits of maintaining a high level of coordination between partner firms, managers of less successful performing alliances may feel that is essential for them to develop and adopt coordinating mechanisms to promote coordinated goals and activities toward the aims of the alliance.

6.6.1.2 Level of Interdependence

Proposition 2: The level of interdependence between partners will be higher for successful UK international strategic alliances compared with less successful international strategic alliances

Table 6.16 Differences in the Level of Interdependence between Successful and Less Successful UK international Strategic Alliances in terms of Performance

Interdependence	Successful Group		Less Successful Group		Difference	
	Mean	SD	Mean	SD	T value	Sig
Equally dependent	3.14	1.32	2.16	1.18	4.12	.000*
Partner replaceable	2.59	1.16	2.76	1.12	-.77	NS
Likely to switch to new partner	1.72	0.98	2.42	1.40	-3.14	.002**
Dependent of financial resources	1.67	0.99	1.86	1.26	-.89	NS
Dependent on technological resources	2.78	1.17	1.84	0.96	4.60	.000*
Dependent on management skills	2.55	0.96	1.90	0.93	3.62	.000*
Dependent on marketing	2.70	1.33	2.40	1.40	1.18	NS
Dependent on sales/profit	2.45	1.38	2.00	1.07	1.92	NS
Dependent on market information	2.56	1.30	2.48	1.18	.35	NS
Dependent on customer services	2.66	1.46	2.22	1.28	1.67	NS
Dependent on manufacturing	1.95	1.39	1.36	0.92	2.61	.010 **
Dependent on administration	1.69	0.99	2.04	1.11	-1.79	NS
Dependent on manpower	2.39	1.34	2.14	1.28	1.01	NS

Scale 1=not at all; 5=Very much so

*Difference significant at 0.001 level

**Difference significant at the 0.01 level

Respondents were asked to rate their level of dependency on their partner as well as their level of dependency on their partner in terms of a number of resources and skills. The results of the t-test in Table 6.16 support the proposition that successful UK international alliances are more likely to be interdependent compared to less successful alliances. Only five (*equally dependent, likely to switch to a new partner and dependent on technological resources, management skills, and manufacturing*) of the thirteen interdependence variables were significantly different between successful and less successful alliances. These

results indicate that "equally dependent" appears to be the most important characteristic (mean=3.14) of successful international alliances which suggests that high performing UK international alliances are more equally dependent on each other compared to less successful alliances that are less dependent on each other. In addition, less successful performing UK international alliances are more likely to switch partner's compared to successful performing UK international alliances.

The results also show that dependency on technological skills, manufacturing and management are more characteristic of UK firms engaged in international alliances which have higher levels of performance. Dependency on "financial, marketing, sales/profit, market information, customer services, administration and manpower" showed no significant differences between the two groups which suggest that these characteristics are possibly less significant for UK firms engaged in international strategic alliances. There is also the possibility that these resources and skills may be more important to the international partner than to the UK firm. This shows that partner's in successful UK international alliance relationships support the growth of separate competitive strengths. On the whole the results have indicated that while both partner's in successful UK international strategic alliances are equally dependent on each other, the UK partners are dependent upon their partner's for manufacturing, management and technological skills. It may be that the UK firm's dependence on their partner for these resources are needed by them to maintain their relationship with the partner to achieve their goals. In other words, the UK partner needs the other partner for these resources to benefit from the relationship.

While theorists have proposed that interdependence between partners is the basis for the success of the alliance (Frazier 1983; Geyskens et al 1996), the results of the current study are not entirely consistent with previous research. In their study of 124 dealer-suppliers in the personal computer industry, Mohr and Spekman (1994) found that interdependence was not a significant predictor of partnership performance. In Monckza et al's (1998) study interdependence emerged as a significant predictor of success in industrial strategic supplier alliances but not in market channel relationships. Monckza et al (1998) further stated that despite this significant result, interdependence was not a critical antecedent for success because of the small beta value of 0.107 in their regression analysis. The results of these two studies may be due, in part to the measures used to assess interdependence. Mohr and Spekman (1994) used two items to measure interdependence which had very low reliability ($r=0.26$). Monckza et al (1998) used Mohr and Spekman's (1994) two measures in addition to one extra measure. The regression analysis presented in section 6.8 will consider how well these issues predict the success of UK international strategic alliances.

Previous research has also suggested that alliances with higher asymmetric interdependence are less stable and less trusting and more likely to be dysfunctional because of the exploitation opportunities that may result from the imbalance (Kumar et al 1995; Anderson and Weitz 1989). The results from Table 6.16 indicate that interdependence between successful UK international alliances is quite symmetrical since they are equally dependent and as a result they are less likely to be opportunistic compared to less successful UK international alliances which are more asymmetrical, as they are less dependent on each other. This

suggests that partners within successful UK international alliances are more likely to value each other's resources and thus need to share their expertise and knowledge to achieve their mutual objectives. These results are supportive of Buchanan (1992) and Kumar et al's (1995) finding that symmetrical interdependence enhances performance. While overall there were few significant differences between the two groups in terms of the UK's dependency on resources and skills the mean scores for successful alliances showed higher dependence. Although there is no empirical investigation that examines the UK firm's dependence on the resources and skills of international firms, the current study suggests that successful UK international firms perceive technological and manufacturing skills as more essential to their firm's operation than financial and marketing skills and thus aim to develop and maintain relationships with international firms controlling these resources. Thus the results of this study clearly demonstrate that interdependency between UK international partner's enhances their ability to achieve their performance goals in relation to their stated objectives and thus leads to the success of the alliance. Therefore, managers need to understand that equal dependence between partners can be instrumental to the alliances ability to improve its performance and thus should attempt to make sure that international partners on whom the UK firms are dependent upon need to provide the critical resources that will enable them to achieve their performance goals and vice versa. Furthermore, a more interdependent relationship will result in partners less likely to switch partners, thereby providing a long lasting successful relationship for both parties.

6.6.1.3 Level of Commitment

Proposition 3: The level of commitment between partners will be higher for successful UK international strategic alliances compared with less successful international strategic alliances

Respondents were asked to rate the level of commitment in the alliance partnership. The commitment levels of both successful and less successful alliances were examined and compared. Table 6.17 shows the results of the comparison. The results of the t-tests showed very strong support for the proposition that the level of commitment is higher for successful UK international alliances compared to less successful UK international alliances whose level of commitment is shown to be lower. The two groups differed significantly on all twenty-eight characteristics of commitment. These characteristics have shown to exhibit high reliabilities (see section 5.3) indicating that they are proficient in measuring the characteristics of commitment in UK international strategic alliances.

- ***Commitment to alliance goals and values***

The results in Table 6.17 show that successful international alliances are more likely to agree on *the goals and objectives of the alliance, the way in which activities are performed, the contractual terms of the agreement, the strategic direction of the alliance, how resources are allocated, who makes key decisions, roles and functions performed by each partner, future plans and prospects, conflict resolution and daily operation of the alliance*. Successful international alliances are also more likely to be committed to their partner's by showing a

strong sense of loyalty and belonging to the partnership, identifying with the alliance goals and objectives, having a shared vision and believing the partnership to be valuable. Thus more successful UK international alliances are more likely to have committed partners who identify with the goals and values of the alliance compared to less successful alliances.

- ***Commitment to make an effort for the alliance***

UK firms engaged in international alliances are more inclined to *listen to their partner's problems and try to help them solve them, encourage their firm to achieve the goals of the alliance, try to satisfy their partner's needs, put effort and investment in to building the relationship, be patient with their partner if mistakes are made and make compromises to reach mutual objectives.* This suggests that UK firm's involved in successful international alliances are more willing to make an effort to meet the alliances goals and interests on behalf of the relationship compared to UK firm's in less successful alliances.

- ***Commitment to stay in the relationship***

The results presented in Table 6.17 also show that UK firms are motivated to maintain their international relationships by believing that maintaining the relationship is *a necessity as well as desire, making short term sacrifices for long term gains, believing that the relationship will be profitable and that the relationship is important for them to achieve their strategic objectives.* Thus UK firms engaged in successful international alliances have a greater desire to maintain their relationship with their international partners compared to UK firm's involved in less successful alliances.

The results presented above show that the level of commitment to alliance goals, the UK firm's willingness to commit to the alliance and their desire to maintain the alliance relationship are greater for international alliances that have successful levels of performance compared to alliances with less successful levels of performance which suggests that successful UK international alliances are more likely to be committed compared to less successful international alliances. These findings are consistent with previous research. Beamish (1988) found a strong correlation between the multinational's willingness to commit to do something and high performance in joint ventures. Lee (1989) also found that a close business relationship between local partners and Korean investors significantly influenced alliance satisfaction. Similarly Mohr and Spekman (1994) and Gundlach et al (1995) observed commitment to be critical for long term relationships. The results also support Olson and Singsuwan (1997) who found that mutual commitment was perceived to be an important predictor of return on investment and market share for both Thai and American executives. More recently Monckza et al (1998) observed commitment to be negatively related to alliance success. However Monckza et al (1998) assessed only a fraction of the relevant determinants of commitment and concentrated on idiosyncratic investments, which are characteristic of buyer-supplier type relationships (Anderson and Weitz 1992). Kumar et al (1995) and Morgan and Hunt (1994) emphasized the role of motivated commitment to alliance success.

While previous research has investigated the relationship between commitment and success, the studies have not captured the many facets of the commitment concept. The findings of the current study, while consistent with previous

research that commitment is positively related to the success of alliances, measures commitment in three different ways utilizing 28 different reliable measures. Thus the results of this study have generated empirical findings for three different perspectives of commitment.

Table 6.17 Differences in the Level of Commitment between Successful and Less Successful UK Strategic Alliances in terms of Performance

Commitment	Successful Group		Less Successful Group		Difference	
	Mean	SD	Mean	SD	T value	Sig
Goals/objectives	4.31	0.73	3.00	1.23	7.09	.000 *
Activities performed	3.80	0.78	2.80	0.97	6.09	.000 *
Contractual terms	3.98	1.00	3.36	1.17	3.06	.003 *
Strategic direction	3.98	0.83	3.02	1.22	5.02	.000*
Resource allocation	3.58	1.02	2.74	1.03	4.34	.000 *
Key decisions	3.78	0.97	2.94	1.02	4.50	.000 *
Roles/functions	3.94	0.87	3.44	1.05	2.76	.007 *
Future plans	3.77	0.94	2.74	1.03	5.56	.000 *
Conflict resolution	3.67	0.99	2.88	1.02	4.17	.000 *
Daily operations	3.81	0.99	3.14	1.03	3.54	.001 *
Loyalty to partnership	3.98	0.93	2.90	1.23	5.34	.000 *
Sense of belonging	3.84	1.03	2.88	1.24	4.54	.000 *
Identify with goals/objectives	4.14	0.81	3.04	1.24	5.69	.000 *
Shared vision	3.95	0.92	2.70	1.26	6.43	.000 *
Partnership valuable	4.39	0.75	3.26	1.27	5.92	.000 *
Listen to problems	4.34	0.74	3.84	0.89	3.30	.001 *
Goal achievement	4.39	0.66	3.74	0.88	4.53	.000 *
Overcome problems	4.42	0.64	3.86	0.81	4.15	.000 *
Satisfy partner needs	4.14	0.83	3.34	1.00	4.66	.000 *
Effort/Investment to build relationship	4.22	0.86	3.40	1.01	4.66	.000 *
Patient over mistakes	3.97	0.78	3.42	0.84	3.62	.000 *
Compromise to achieve objectives	3.81	1.02	3.20	0.97	3.25	.002 *
Motivated by necessity	3.16	1.20	2.42	1.40	3.02	.003 *
Motivated by desire	4.09	0.83	3.10	1.22	5.17	.000 *
Motivated by long-term gains	3.45	0.97	3.04	1.03	2.19	.031**
Motivated by enjoyment	3.91	0.92	2.92	1.01	5.45	.000 *
Motivated by profitability	4.39	0.75	3.22	1.39	5.76	.000 *
Motivated by strategic objectives	4.25	0.80	3.12	1.53	5.08	.000 *

Scale 1=Not at all; 5=Very well

* Difference significant at the 0.01 level

**Difference significant at the 0.05 level

Based on the above observations, it is appropriate to conclude that for international strategic alliances to succeed, partners need to identify with the goals and objectives of the alliance and have positive feelings of identification and involvement. Moreover, partners have to be willing to make an effort and invest in the relationship to achieve their goals and objectives as well as the inclination to maintain the relationship because they feel committed to the alliance through necessity, profitability or achievement of long term strategic objectives. Thus commitment is more specific to successful compared to less successful UK international strategic alliances. The implication of this for managers is that commitment to alliance goals and commitment to fulfil these goals through sustaining the relationship is pivotal to the applicability and successful performance of UK international strategic alliances.

6.6.1.4 Level of Trust

Proposition 4: The level of trust between partners will be higher for successful UK international strategic alliances compared with less successful international strategic alliances.

Respondents were asked to rate the level of trust between their firm and their partner firm. The results in Table 6.18 showed significant differences for 14 of the 15 characteristics of trust. Thus, the proposition that the level of trust is higher for successful UK international strategic alliances compared with less successful international alliances is supported. While no significant differences were found between the two groups in terms of the characteristic *opportunistic and self/centered* the results show a higher mean score for less successful

alliances. This indicates that UK firms that are less successful in the performance of their alliance's are more likely to be opportunistic in their behaviour and as a result less likely to foster trust in their relationships. The *level of confidence in a partner* appears to be the most important (mean=4.08) characteristic of trust. Thus UK firm's engaged in successful international alliances have confidence in their partner's reliability and integrity.

Table 6.18 Differences in the Level of Trust between Successful and Less Successful UK international Strategic Alliances in terms of Performance

Trust	Successful Group		Less Successful Group		Difference	
	Mean	SD	Mean	SD	T value	Sig
Level of trust	3.84	0.88	3.12	1.00	3.76	.000*
Trusted to keep promises	3.95	0.92	3.32	1.02	3.49	.001*
Trusted to be sincere	4.00	0.85	3.40	0.93	3.59	.000*
Opportunistic/self centered	2.33	0.98	2.46	0.93	-.73	Ns
Trusted to be supportive	3.48	0.93	2.96	0.83	3.14	.002**
Trusted to show loyalty	3.72	0.97	2.94	1.00	4.21	.000*
Lack of continuity in teams	2.28	1.05	2.88	1.17	-2.88	.005**
High degree of harmony	3.64	0.78	2.82	0.75	5.66	.000*
Open and informal	3.77	0.77	2.96	0.99	4.89	.000*
Close personal ties	3.59	1.02	2.98	0.98	3.25	.002*
Keep commitments made	3.84	0.80	3.22	0.82	4.09	.000*
Do not take advantage of each other	3.77	0.89	3.20	0.97	3.25	.002*
Can always rely on each other	2.84	0.98	2.86	0.86	5.62	.000*
Share work related problems	3.61	0.90	2.90	0.99	3.98	.000*
Level of confidence in relationship	4.08	0.80	3.18	0.98	5.37	.000*

Scale 1=Not at all; 5=Very well

*Difference significant at the 0.001 level

**Difference significant at the 0.01 level

The literature on trust suggests that confidence on the part of the trusting partner results from the belief, sentiment or expectation that the partner's trustworthiness is reliable and intentional (Morgan and Hunt 1994; Moorman et al 1992). The results indicate that UK firms in successful international alliances trust their partner *to keep promises, to be ready and willing to offer support, show a high degree of loyalty and be sincere when making important decisions concerning the*

alliance and as a result are less opportunistic in their behaviour. In addition, the results indicated that while less successful UK international alliances *lack continuity in management teams*, UK firm's engaged in successful international alliances believe that their relationship with their partner's is *marked by a high degree of harmony, is open and informal, there are close personal ties between them, the partner makes an effort to keep commitments, work related problems are shared and they do not take advantage of each other.*

The findings support Beamish and Banks (1987) who argued that mutual trust reduces the temptation for either partner to take advantage of the other, thus reducing opportunistic behaviour. Williamson (1985) and Hill (1990) also suggested that trust is based on the willingness of parties to cooperate and the expectation that each will not behave opportunistically. Thus the findings suggest that trust may be a function of a number of elements.

Previous research has attributed the element of trust to be associated with the success of international strategic alliances (Peterson and Shimada 1978; Sullivan and Peterson 1982; Mohr and Spekman 1994; Madhok 1995; Monckza et al 1998). This study supports Madhok's (1995) view that trust is a critical factor for successful collaboration. He posits that trust within collaborations has the potential for efficiency and cost reductions. The results of this study indicate that trust exists between successful UK international alliances compared to less successful alliances as a result of higher profitability, market share and sales growth. Accordingly this may result in more efficient use of resources and reduced costs.

The results of this study also support both Mohr and Spekman (1994) and Monckza et al (1998). Mohr and Spekman (1994) found that a trusting relationship for computer suppliers and dealers served to calm the dealer's fear of opportunistic behaviour thus resulting in the success of the partnership. Monckza et al (1998) has also observed that trust between strategic supplier alliances was important to the success of their partnership.

Despite this empirical evidence relating trust to the performance of strategic alliances, it has been noted in the literature that there has been little research conducted on trust as an element of international strategic alliance performance (Parkhe 1993). Furthermore, while previous studies have relied on two or three measures to examine the relationship between trust and performance, this study has utilized a number of measures of the international strategic alliance trust construct. The benefit of using multiple measures of a construct results in a better understanding of its properties (Geringer and Herbert 1989). As a result the findings of this study are able to provide a stronger examination of the link between trust and the success of UK international strategic alliances. Thus, to achieve trust, managers should try to instruct personnel involved in the international alliance to keep promises, to be sincere when making decisions, show loyalty and offer support to the other party. Managers can help to cultivate these trusting behaviours by encouraging both partners to confide in each other by having a relationship that is open and informal, has a high degree of harmony and in which partners are committed to each other. If managers are able to help develop mutual trust between partners this should reduce the possibility of both partners attempts to take advantage of each other and the possibility of

opportunism. As a result of developing mutual trust, the partnership can direct its attention towards achieving its long-term performance goals.

6.6.2 Communication Attributes

6.6.2.1 Quality of Information Transmitted

Proposition 5: The quality of information between partners will be greater for successful UK international strategic alliances compared with less successful international strategic alliances.

The quality of information is concerned with the characteristics of the communication process, in terms of accuracy, credibility, timely, adequacy and completeness of the information transmitted and received between partner firms. The t-test results in Table 6.19 show significant differences for three attributes of information quality (*inadequate/adequate*, *incomplete/complete* and *not credible/credible*) out of five.

Table 6.19 Differences in the Quality of Information Transmitted between Successful and Less Successful UK International Strategic Alliances in terms of Performance

Information Quality	Successful Group		Less Successful Group		Difference	
	Mean	SD	Mean	SD	T value	Sig
Untimely / Timely	3.66	1.01	3.30	1.02	1.86	NS
Inaccurate / Accurate	3.72	1.05	3.42	0.61	1.79	NS
Inadequate / Adequate	3.64	0.93	3.24	0.77	2.45	.016 **
Incomplete / Complete	3.69	0.83	3.08	0.88	3.77	.000 *
Not Credible / Credible	3.89	1.13	3.42	0.95	2.37	.020 **

* Difference significant at the level 0.01

**Difference significant at the level 0.05

For two of the measures (*untimely/timely* and *inaccurate/accurate*) no significant differences were found between the two groups. However these two non-significant measures showed higher mean scores for successful UK international alliances compared to less successful international alliances. Thus, there is some support for the proposition that the quality of information between partners will be greater for successful UK international strategic alliances compared with less successful international alliances.

The findings above suggest that the quality of information is an important element in improving the accuracy, flow and acceptance of relevant information in successful UK international strategic alliances. The results support that of Mohr and Spekman (1994) and Monckza et al (1998). Mohr and Spekman (1994) observed that the quality of information transmitted between computer dealers and manufacturers is a key aspect in the relationship in that it enables the achievement of their goals and thus contributes to the success of the partnership. They found the quality of information to positively predict the success of the partnership in terms of satisfaction with manufacturer support. Monckza et al (1998) also observed that quality of information within supply chain management is important to the relationship. They found the quality of information to predict the performance of the international partnerships in terms of quality, cycle time, technology and in terms of alliance satisfaction and how well the alliance partners worked together. Their results suggested that quality of information resulted in reductions in order cycle times, provided timely information on new products or process technologies and thus improved the working relationship between the partners. However in their analysis, they combined the quality of information

with participation in decision-making. Participation in decision-making is another aspect of communication in this study that has been dealt with separately.

The findings that the quality of information is more specific to successful UK international alliances compared to less successful international alliances have generally supported the results of Mohr and Spekman (1994) and Monckza et al (1998). However their findings relate to successful partnerships within dealer-supplier type relationships. Although the specific dimensions of information quality examined in this study have been operationalized and developed by Mohr and Spekman (1994) the findings in this study are extended to include a range of international strategic alliances investigated across a range of different industries. Furthermore, both Mohr and Spekman (1994) and Monckza et al (1998) showed that the quality of information transmitted may impact the success of the partnership. Their findings have not indicated that the quality of information transmitted is more characteristic of successfully performing international strategic alliances as in the case of this study. Statistical difference was also found between the two groups in terms of profitability, market share and sales growth, which neither Mohr and Spekman (1994) and Monckza et al (1998) examined.

Overall, the results suggest that credibility, adequate and completeness of information are important facets of the quality of information that is communicated or exchanged between successful UK international strategic alliances and are thus necessary for the achievement of the goals and objectives of the alliance. Based on these findings managers can attempt to improve the quality

of information transmitted between international partners by ensuring that the information communicated is sufficiently accurate and credible. This can be achieved through both parties providing better and more accurate information that is required by each party in order for them to be able to succeed in accomplishing their performance goals.

6.6.2.2 Level of Information Sharing

Proposition 6: There will be a greater level of information sharing between partners for successful UK international strategic alliances compared with less successful international strategic alliances.

Respondents were asked to describe the level and the way in which information is exchanged between them and their partners. The t-test results in Table 6.20 revealed significant differences for three (*share proprietary information, inform partner of changing needs and both parties expected to inform each other of changing needs*) of the four measures of information sharing between the two groups. Therefore, the proposition that there will be a greater level of information sharing between partners for successful UK international strategic alliances compared to less successful alliances can be supported. *Hesitate to give too much information* was not found to be significantly different between the two groups, but the mean score was higher for less successful UK international alliances. This suggests that less successful UK international alliances are more hesitant in providing their partners with proprietary information as well as inform their partner of changing needs of the alliance.

The results suggest that the sharing of proprietary information and the exchange of relevant information between successful UK international alliances enables both parties to understand each others goals and objectives and this allows them to coordinate their efforts to achieve their mutual objectives in terms of profitability, market share and sales volume. One explanation may be that both parties have similar goals and objectives and are thus forced to communicate through sharing information and resources and coordinating their efforts. The distribution literature has suggested that information sharing allows the coordination of efforts and fosters confidence in the continuity of the relationship by reducing conflict (Anderson and Narus 1990; Anderson and Weitz 1989). While the role of information sharing between partners in an alliance relationship has been acknowledged as critical communication strategy for facilitating partnership success (Devlin and Bleackley 1988), there have been only two studies that have investigated the role of information sharing and partnership success. These are the studies of Mohr and Spekman (1994) and Monckza et al (1998). The findings of the current study differ from that of Mohr and Spekman (1994) but support that of Monckza et al (1998). Mohr and Spekman (1994) found a negative association between information sharing and satisfaction with profits. They could not provide a rational explanation for this finding and stated that they were inconsistent. Mohr and Spekman (1994) measured the extent of information with an eight-item scale of which four items were dropped in the analysis, because of low reliability. They do not state which of the four measures were used in the analysis. Furthermore, the four measures analysed exhibited satisfactory reliability ($r=0.68$).

Monckza et al (1998) observed sharing of information between dealers and suppliers was not associated with performance or satisfaction with the relationship, but related to the success of the international partnership in terms of how well they worked together. Their results indicated that information sharing may enable the partners to work together to solve problems, help each other in situations of emergency and rely on each other for support.

The current study has provided interesting empirical findings to support the notion that successful international alliances are more likely to share information compared to less successful alliances. The implication here, that the sharing of information between partners by keeping each other informed about their needs and changes in the alliance, both parties will be in a better position not only to assess their needs but also to work more effectively in achieving their goals and objectives.

Table 6.20 Differences in the Level of Information Sharing between Successful and Less Successful UK international Strategic Alliances in terms of Performance

Level of Information Sharing	Successful Group		Less Successful Group		Difference	
	Mean	SD	Mean	SD	T value	Sig
Share proprietary information	3.72	0.98	2.94	1.25	3.72	.000
Inform partner of changing needs	3.88	0.83	3.38	0.97	2.95	.004
Both parties expected to inform each other of changing needs	4.20	0.82	3.58	0.93	3.80	.000
Hesitate to give information	2.39	1.15	2.54	1.03	-.72	Ns

Scale 1=Not at all; 5=To a large extent
Difference significant at the 0.01 level

6.6.2.3 Level of Participation in Planning and Goal Setting

Proposition 7: The level of participation in planning and goal setting between partners will be higher for successful UK international strategic alliances compared with less successful international strategic alliances.

Proposition 7 is concerned with the level of participation in planning and goal setting that occurs between UK international strategic alliances. The level of participation of both groups were compared. The t-test results in Table 6.21 showed that the two groups differ significantly on all attributes (*participate in goal setting, participate in planning, participate in meetings, seek partner's advice in decision-making and partner seeks advice in decision-making*) measuring the level of participation.

Table 6.21 Differences in the Level of Participation between Successful and Less Successful UK International Strategic Alliances

Participation	Successful Group		Less Successful Group		Difference	
	Mean	SD	Mean	SD	T value	Sig
Participate in goal setting	3.84	0.95	3.00	1.14	4.31	.000*
Participate in planning	3.22	1.13	2.28	1.18	4.31	.000*
Participate in meetings	4.22	0.74	3.74	0.99	2.95	.004**
Seek partner's advice in decision making	3.44	1.14	2.76	1.10	3.20	.002**
Partner seeks advice in making decisions	3.27	1.04	2.24	1.06	5.17	.000*

Scale 1=Strongly disagree; 5=Strongly agree

*Difference significant at the 0.001 level

**Difference significant at the 0.01 level

This suggests that UK international strategic alliances are more likely to participate in goal setting and planning alliance activities through holding regular meetings and joint decision-making compared to less successful international

alliances. Thus the proposition that the level of participation in planning and goal setting between partners will be higher for successful UK international strategic alliances compared with less successful international strategic alliances is supported. Participation in planning, goal setting and decision-making are critical in enabling both parties to coordinate their activities and thus help partners to succeed (Anderson et al 1987; Dwyer and Oh 1988). This participatory style of management suggests that both the UK firms and their partners, whose alliances are successful have an equal say on strategic issues and operational matters.

The results are consistent with previous research. Dymsha (1988) investigated a number of joint ventures, through using both questionnaires and interviews in many developing countries and found that joint ventures performed much better when both parties participated in key decision areas such as board meetings, major policies and management processes. Mohr and Spekman (1994) found that computer dealers obtained higher levels of satisfaction with manufacturer support through participation in goal setting and planning activities with the manufacturers. Olson and Singsuwan (1997) found that both Thai and American executives perceived mutual participation in decision-making to be important to the success of their relationship and found that the greater the participation, the greater the effect on market share and return on investment. Similarly Monckza et al (1998) found participation to be associated with alliance success. However as noted in the above discussion, they measured information quality and participation as a combined attribute.

Based on the above evidence it can be concluded that the extent of participation in goal setting and planning activities and decision-making is greater for successful UK international strategic alliances. Therefore, it can be suggested that developing international strategic alliances in which both partners engage jointly in the planning and goal setting of their activities are necessary to help in facilitating ideas and making decisions. This will result in better outcomes for both parties, since more information, knowledge, skills and insights will be shared between partners. This can be accomplished through both partners having regular meetings and through consulting each other before making important decisions.

6.6.3 Level Of Conflict

Proposition 8: There will be less conflict between partners for successful UK international strategic alliances compared with less successful international strategic alliances.

Respondents were asked to indicate the type of conflict and their degree of conflict with their partner firm. The level of disagreements and how these disagreements may be resolved was also investigated. The results of the t-test presented in Table 6.22 found significant differences between successful and less successful international alliances on five (*level of disagreements, joint problem solving, degree of conflict, conflicting goals and cultural misunderstandings*) of the fourteen measures of conflict. Both groups do not differ significantly on the remaining nine measures (*avoid the issue, smooth over the issue, assertive and domineering, persuasion, outside arbitration, poor communications, distrust, personality conflicts, language difficulties*). Thus the overall results shown in

Table 6.22 indicate no significant differences between the two groups in terms of how conflicts are resolved and the causes of conflict, but there are differences between the two groups in terms of the level of disagreements and the degree of conflict. The results suggest that successful UK international alliances are less likely to have disagreements and conflicts compared to less successful international alliances. It may be that partners in successful alliances have developed better communication skills and are thus in a position to manage conflicts that may arise more effectively. Less successful international alliances appear to have a higher degree of conflict resulting from cultural misunderstandings and conflicting goals and experience disagreements more often in their relationships. It is possible that partners in less successful alliances have mutually exclusive or incompatible goals, values and interests. Thus, there is support for the proposition that there will be less conflict for successful UK international strategic alliances compared to less successful international alliances. The findings are consistent with previous literature.

Previous research has confirmed that conflicts between alliance partners are a major cause of failure and bad performance of strategic alliances (Peterson and Shimada 1978; Sullivan and Peterson 1982; Killing 1983; Harrigan 1988; Habib 1987; Tilman 1990). Both Peterson and Shimada (1978) and Sullivan and Peterson (1982) found that cultural differences are the source of management problems in American-Japanese joint ventures. Likewise Harrigan (1988) and Dymzsa (1988) observed that conflicting goals lead to inter-partner conflicts between partners in international joint ventures which may result in the failure of the venture (Killing 1983).

Habib's (1987) analysis of 258 international joint ventures in the chemical and petrochemical industries observed that conflicting goals between partners as well as the frequency and intensity of conflict between partners was negatively associated with satisfaction of the partnership. More recently Tilman (1990) found that conflicts between Japanese-Thai partners had a significant negative impact on performance. Thus frequent disagreements and conflicts between partners can result in the failure and termination of international joint ventures (Killing 1983; Lane and Beamish 1990; Lewiss 1990).

Despite the proposition that a low level of conflict is associated with alliance success, it has been proposed in the literature that conflict is an inherent characteristic of all international strategic alliances (Habib 1983; Killing 1983; Devlin and Bleackley 1988; Borys and Jemison 1989). However, both Mohr and Spekman (1994) and Monckza et al (1998) showed that joint problem solving as a method of conflict resolution has an impact on the success of the alliance and can result in a "win-win" solution between partners. Although the results of this study have indicated that successful UK international alliances are less likely to encounter conflict with their partner's, any resulting conflicts that may occur are likely to be resolved through joint problem solving.

Based on the above empirical analysis, it is appropriate to conclude that a higher frequency of conflicts and disagreements is an inherent element of less successful UK international strategic alliances. In successful UK international alliances, any conflict is likely to be resolved through the use of joint problem solving. Based on these findings it is suggested that to control the level of conflict, international

partners need to understand the basis of where and why conflicts arise. In this way international firms will be in a better position to manage the level of conflict between partners in international strategic alliances more effectively and maintain it at a level which is productive for both parties. Furthermore, in attempting to resolve conflicts that may arise between international partners it would be more beneficial for partners to work in a cooperative manner by formulating an effective conflict management strategy. This again would be more productive for both parties.

Table 6.22 Differences in the Level of Conflict between Successful and Less Successful UK International Strategic Alliances in terms of Performance

Conflict	Successful Group		Less Successful Group		Difference	
	Mean	SD	Mean	SD	T value	Sig
Level of disagreements	2.41	0.68	2.76	0.87	-2.43	.017 **
Avoid the issue	2.05	0.95	2.24	0.92	-1.09	Ns
Smooth over the issue	3.03	0.96	2.94	0.96	.50	Ns
Assertive and domineering	2.41	1.05	2.34	0.96	.35	Ns
Persuasion	3.88	0.93	3.66	0.85	1.27	Ns
Joint problem solving	3.81	0.79	3.40	0.93	2.56	.012 **
Outside arbitration	1.22	0.70	1.24	0.56	-.18	Ns
Degree of conflict	2.19	0.96	2.84	1.04	-3.48	.001 *
Poor communications	2.94	1.08	3.12	1.00	-.92	Ns
Distrust	2.09	1.09	2.32	0.89	-1.19	Ns
Conflicting goals	2.55	1.27	3.38	1.09	-3.70	.000 *
Personality Conflicts	2.45	1.21	2.76	1.00	-1.45	Ns
Cultural misunderstandings	2.81	1.28	3.36	1.12	-2.39	.019 **
Language difficulties	1.84	1.09	2.04	1.18	-.92	Ns

Scale 1=Very low; 5=Very high

* Difference significant at the 0.01 level

**Difference significant at the 0.05 level

6.6.4 Structure

6.6.4.1 Formalization

Proposition 9: Successful UK international strategic alliances will be less formalized in their approach to managing activities and relationships compared to less successful international strategic alliances.

This proposition relates to the use of rules and standard operating procedures to govern the interaction of the alliance partners. Successful and less successful UK international strategic alliances were compared as to the level of formalization in their activities and relationship. The t-test results revealed no significant differences in the formalization of the two groups (see Table 6.23). Thus, no support was found for the proposition that successful UK international strategic alliances will be less formalized in their approach to managing activities and relationships compared to less successful international alliances.

Although formalization has been identified as a key dimension of interorganizational relationships (John and Reve 1982; Dwyer and Oh 1988; Provan and Skinner 1989) the results of this study have shown that successful UK international alliances are not any more formalized in their activities and relationships compared to less successful alliances. Furthermore, while empirical research has suggested that a higher degree of formalization results in increased opportunism (John 1984; Provan and Skinner 1989) and lower levels of trust (Moorman et al 1993), proposing that formalized relationships are likely to result in dissatisfied alliances, the results of this study found no differences between successful and less successful international alliances.

The measures used in this study are based on the work of John (1984) and Dwyer and Oh (1988) and Moorman et al (1993). They have provided a somewhat general definition and measure of this dimension borrowed from organization theory. Although there is some conceptual consensus among researchers, they have constructed different indicators to tap the same attributes of formalization. John (1984) examined the bureaucratic structuring on opportunism within a marketing channel and found satisfactory reliability for formalization ($r=0.63$). Likewise Dwyer and Oh (1988) observed a reliability of $r=0.68$. Moorman et al (1993) found acceptable reliability for formalization ($r=0.79$). However, this may be explained by the fact that they used 15 indicators to measure the degree of formalization whereas both John (1984) and Dwyer and Oh (1988) used five indicators to measure formalization. This study found a lower level of reliability of ($r=0.57$) for formalization using only three indicators. Furthermore, previous research has focused on interorganizational relationships within marketing channels as the unit of analysis, while this study has focused on a range of international strategic alliances across a range of industries. It may be that formalization needs to be operationalized in terms of the context of the strategic alliance.

Table 6.23 Differences in the Formalization of Activities between Successful and Less Successful UK International Strategic Alliances in terms of Performance

Formalization	Successful Group		Less Successful Group		Difference	
	Mean	SD	Mean	SD	T value	Sig
Written documents detail tasks	3.36	1.15	3.08	1.14	1.29	Ns
Informal understanding	3.16	1.26	2.76	1.08	1.77	Ns
Specific terms/conditions	3.34	1.04	3.30	1.02	.22	Ns

Scale 1=Not at all; 5=Very well

It seems rather clear, on the basis of the evidence, that formalization of activities is not significantly different for either successful or less successful UK international strategic alliances. It may be that UK international alliances do not necessarily rely upon formalized mechanisms suggesting that the formalization of activities is not a very important issue for international strategic alliances in terms of how successful they are. It may also be that there have been no valid measures developed of this phenomenon within the context of alliances.

6.6.4.2 Centralization

Proposition 10: Successful UK international strategic alliances will be less centralized in their activities and relationships compared to less successful international strategic alliances.

The degree of centralization for both groups was compared. The t-tests found a significant difference between the two groups centralization of activities for one variable (*both parties participate in decisions*) out of three (see Table 6.24). No significant differences were found for the variables *all information is channelled* and *contact through alliance managers*. Successful UK international alliances are not any more centralized in their activities compared to less successful UK international alliances. However, successful international alliances participate more frequently in joint decision-making. This result was surprising since the variable "both parties participate in decisions" was removed prior to factor analysis (see section 5.3) because this indicator decreased the alpha coefficient of the centralization measure. While there is no explanation for this, it is possible that this variable does not adequately tap the dimension of centralization and

perhaps may have been more proficient as a single-item measure. Thus there is weak support for the proposition that successful UK international strategic alliances will be less centralized in their activities and relationships compared to less successful alliances. Despite only one significant difference between the two groups, the mean scores indicate that successful UK alliances are more likely to have a less centralized decision-making process with a greater tolerance towards more independent decision-making through alliance managers rather than channelling information through an office and are thus more participative in joint decision-making compared to less successful UK alliances. Yoshino and Rangan (1995: 130) stated that this approach to centralization "permits hands-on management with clear accountability and can foster consistency in the working relationship".

Table 6.24 Differences in the Centralization of Activities and Relationships between Successful and Less Successful UK International Strategic Alliances in terms of Performance

Centralization	Successful Group		Less Successful Group		Difference	
	Mean	SD	Mean	SD	T value	Sig
All information channelled	3.19	1.42	3.26	1.31	-.28	Ns
Contact through alliance managers	3.16	1.41	3.10	1.27	.22	Ns
Both parties participate in decisions	3.83	0.92	2.90	1.11	4.88	.000*

Scale 1=Not at all; 5=Very well
Difference significant at the 0.01 level

Dwyer and Oh (1988) propositioned that the decision-making structures of channel relationships within the hardware industry are likely to be characterized by collaborative structure rather than an administrative hierarchy as a result of bargaining over trade terms. They found no significant differences in centralization and participation in decision-making. Wholesalers emerged as the

most centralized and least participative in terms of degree of input to decisions, idea generation, decision-making and goal formulation. While the reliability of their measures were fairly satisfactory (*centralization* $r=0.72$ and *participation* $r=0.79$) their explanation was that the measures used were not sufficiently sensitive and that channel groups may have interpreted the measures differently to mask their interorganizational governance.

However, John (1984) found that increased centralization deprived managers in channel relationships of participating in decision-making which resulted in increased opportunism. Similarly Provan and Skinner (1989) investigated supplier control over power equipment dealers in their decision-making and found that suppliers attempts to control dealer decisions were positively related to opportunistic behaviour on the part of the dealers. These studies, while they have not examined the impact of centralization on the success of international strategic alliances, suggest that too much centralization results in power and control being distributed between relatively few people and decision-making is hierarchical rather than participative.

The results of this study have attempted to provide new evidence, regarding the centralization of activities between successful and less successful UK international strategic alliances. While the proposition is weakly supported in that there is little difference between the two groups in terms of how activities are centralized, successful UK international alliances are more likely to participate in joint decision-making. This means that the participation between partners in joint decision-making is one mechanism that should be structured in UK international

strategic alliances in order to manage the alliance activities and relationships. This can be brought about by involving personnel and managers of both parties in the activities of the alliance, introducing them to new ideas and techniques for solving problems. This means that decision-making will not be concentrated in the hands of a few people in top management positions and thus decision-making is not tightly controlled and coordinated.

6.6.4.3 Complexity

Proposition 11: Successful UK international strategic alliances will have simpler levels of organizational arrangements compared to less successful international strategic alliances.

Table 6.25 Differences in Organization Arrangements between Successful and Less Successful UK International Strategic Alliances in terms of Performance

Complexity	Successful Group		Less Successful Group		Difference	
	Mean	SD	Mean	SD	T value	Sig
Complex / Simple	3.11	1.30	3.32	1.24	-.88	Ns
Flexible / Inflexible	2.91	1.19	3.18	0.94	.00	Ns
Hierarchical / Informal	3.00	1.08	3.00	0.90	-1.33	Ns

Scale 1 to 5 used on all three measures

The results shown in Table 6.25 found no significant differences between the two groups in terms of its complexity and therefore, the proposition that successful UK international strategic alliances will have simpler levels of organizational arrangements compared to less successful international alliances was not supported. This suggests that there is no structural differentiation in terms of the

level of flexibility, complexity and hierarchy between successful and less successful UK international alliances. However, this does not mean that complexity is not characteristic of UK international strategic alliances, only that it is not distinctive of either successful or less successful international alliances. The measure of complexity exhibited low reliability ($r=0.57$). Furthermore, as the literature review in chapter two indicated, complexity within international strategic alliances remains relatively underresearched.

In summary, given the limited amount of research that has explored structure and alliance success within international strategic alliances and given the weak findings of the t-tests, it is very difficult to suggest generalizations about their relationship. However, it is recommended that the structure of international alliances is based on needs of both partners in order for them to meet their mutual goals and objectives. The above results have indicated that frequent participation in decision-making is characteristic of successful UK international strategic alliances suggesting a more decentralized decision-making structure.

6.6.5 Control

6.6.5.1 Focus of Control

Proposition 12: UK international strategic alliance partners that seek to focus their influence over particular alliance activities, rather than control all activities will be more successful.

Where control over a particular function of the international strategic alliance is exercised by successful UK international alliances, the performance is expected to be higher. That is, the elements of control that significantly determine alliance success would vary between successful and less successful UK international alliances. The results in Table 6.26 showed no significant differences between successful and less successful international alliances in terms of the focus of control over alliance activities. As indicated earlier, three variables relating to the focus of control were omitted from the analysis because of missing values. These variables included *product planning, production planning and R&D*. This is not a reflection of UK international alliances not considering these three areas of control to be significant, but rather that some of UK firms in the respondent sample were not involved in these activities. For instance a number of the UK alliances were formed in industries such as financial services and business and information services that did not involve either product or production planning and R&D (see section 6.2.3). The two groups differed significantly on only one (*pricing policy*) out of seven items. Differences along the other six measures (*financial activities, marketing/sales, quality control, distribution facilities, customer support and manpower management*) are not significant between the two groups. Therefore, there is very weak support for the proposition that

successful UK international alliance partners seek to focus their influence over particular alliance activities, rather than control all activities. The results indicate that more control is exercised over pricing policy by successful UK international alliances compared to less successful UK international alliances. It may be that pricing policy is seen as a strategically important activity by the UK firms for achieving their strategic objectives or it may be that they have the sufficient resources and capabilities to deal with pricing policy issues. Mjoen and Tallman (1997) suggested that control over key activities resulted in feelings of overall control, thereby the perceptions of performance of international joint ventures.

Previous empirical research has observed that alliance partners which seek to focus their control over activities that are strategically important or crucial to the achievement of their strategic objectives is related to the success of the venture (Schaan 1983; Geringer and Herbert 1989). Schaan's (1983) investigation of ten Mexican international joint ventures illustrated that parent firm's tend to seek control over specific "strategically important activities". Schaan's (1983) finding was supported by Geringer (1988) who found that while in his sample of ninety joint ventures in developed countries equity control was split on 50:50 basis, control over other activities of the joint venture were not shared. Specifically, control between partners was more likely to be shared in areas such as capital expenditure, appointment of key personnel and the establishment of prices and sales targets. Control was less likely to be shared in product design, manufacturing set up and the day-to-day management of the joint venture. The findings clearly indicate that there is a sharing of responsibility for financial activities, marketing and sales, quality control, distribution facilities, customer

support and manpower management for both successful and less successful UK international strategic alliances.

Table 6.26 Differences in Focus of Control between Successful and Less Successful UK International Strategic Alliances in terms of Performance

Control Focus	Successful Group		Less Successful Group		Difference	
	Mean	SD	Mean	SD	T value	Sig
Financial Activities	3.02	0.93	2.84	1.06	.94	Ns
Marketing / Sales	3.17	0.98	2.86	1.23	1.50	Ns
Quality Control	2.87	1.11	2.88	1.15	-.46	Ns
Pricing Policy	3.23	0.98	2.62	1.18	3.05	.003*
Distribution Facilities	3.02	1.15	2.98	1.19	.23	Ns
Customer Support	2.89	1.18	2.74	1.27	.65	Ns
Manpower Management	2.88	1.18	2.76	1.13	.53	Ns

Scale 1=UK firm has control; 5=Partner has control

*Difference significant at the 0.01 level

Based on the above data on the scope of activities over which control can be exercised by international strategic alliances no firm conclusions can be drawn concerning Schaan's (1983) suggestion that firms seek control over activities that are perceived to be crucial for the achievement of their objectives. No significant differences were found on any of the measures of control except for pricing policy.

As mentioned earlier, the exclusion of the three variables (product planning, production planning and R&D) may have prevented significant differences between the two groups. The non significant differences may also have been influenced by the inclusion of the different types of international strategic alliances (equity joint ventures, contractual agreements and consortia) Previous research on control has concentrated on equity joint ventures rather than on

contractual agreements or consortia (for example Schaan 1983; Killing 1983). While the results of this study indicate that UK firms engaged in successful international strategic alliances have control over pricing policy issues, the overall results suggest that there is no difference between the two groups in terms of what they control.

6.6.5.2 Mechanism of Control

Proposition 13: UK international strategic alliance partners that use positive control mechanisms as opposed to negative control mechanisms to monitor alliance activities are more successful.

The control mechanisms used by UK international alliances was compared for both groups and the results are shown in Table 6.27. The two groups differed significantly on five (*involvement in planning, regular reporting on performance, teamwork culture, informal/formal contacts and power of veto*) out of the 11 measures. Both groups did not differ significantly on the other six measures (*board of directors, equity ownership, contractual formal agreement, technological superiority, management skills and appointment of key personnel*). Thus, there is some support for the proposition that UK international strategic alliances that use positive control mechanisms as opposed to negative control mechanisms to monitor alliance activities are more successful.

Table 6.27 Differences in Mechanism of Control used between Successful and Less Successful UK International Strategic Alliances in terms of Performance

Control Mechanism	Successful Group		Less Successful Group		Difference	
	Mean	SD	Mean	SD	T value	Sig
Board of Directors	3.48	1.54	3.40	1.47	.30	Ns
Power of Veto	1.63	1.00	2.12	1.26	-2.34	.021**
Equity Ownership	2.59	1.49	2.70	1.43	-.38	Ns
Contractual Formal Agreement	3.30	1.27	3.30	1.20	-.01	Ns
Technical Superiority	2.36	1.22	1.94	1.11	1.89	Ns
Management Skills	3.14	0.99	3.08	1.18	.30	Ns
Involvement in Planning Process	3.70	0.83	3.12	1.06	3.29	.001*
Regular reporting on Performance	3.95	0.88	3.60	1.01	1.99	.049**
Teamwork Culture	3.75	1.04	2.98	1.19	3.69	.000*
Appointment of Key Personnel	3.80	1.24	3.38	1.26	1.77	Ns
Informal / Formal Contacts	4.17	0.88	3.80	1.07	1.97	.044**

Scale 1=Never; 5=Always

* Difference significant at the 0.01 level

**Difference significant at the 0.05 level

Schaan's (1983) study of ten joint ventures in Mexico concluded that joint ventures could be turned around by the mechanisms they used to exercise control. Schaan (1983) proposed that positive mechanisms are employed by international joint ventures to promote certain behaviours while negative control mechanisms are used to prevent the joint venture from implementing certain activities. In this study the findings indicate that successful UK international strategic alliances are more likely to use positive control mechanisms such as involvement in the planning process, regular reporting on performance, teamwork culture and formal and informal contacts to monitor their alliance activities, compared to less successful UK international alliances which are more likely to monitor alliance activities through power of veto which has been described as a negative control mechanism.

6.6.5.3 Extent of Control

Proposition 14: Successful UK international strategic alliances are those in which the management of the alliance is shared compared to less successful international strategic alliances.

Respondents were asked to indicate the extent of overall control within the alliance partnership by indicating whether they had dominant control, equal control or whether their partner firm had dominant control. The extent of overall control exercised within UK international strategic alliances was examined and compared for both groups. The results in Table 6.28 indicate that the two groups differ in terms of overall control. UK firms engaged in successful international alliances are more likely to have dominant control of the partnership compared to UK firms engaged in less successful alliances in which the international partner is more likely to have control. This suggests that the management of the alliance is not shared in either of the two groups. Therefore the results do not support the proposition that successful UK international alliances are those in which the management of the alliance is shared compared to less successful international alliances.

The results are not entirely inconsistent with previous literature. The results support the findings of Killing (1983) and Kogut (1988) but are inconsistent with the majority of other research (Tomlinson 1970; Beamish 1984; Bleeke and Ernst 1991; Blodgett 1992). Killing (1983) in his investigation of 37 international joint ventures in developed countries found that dominant partner joint ventures were more likely to be successful than shared management ventures. His justification

was that the presence of two or more parents constituted a major source of management difficulties in joint ventures and thus dominant control structures often make joint ventures easier to manage and may be more successful than when control is shared. Kogut (1988) examined the mortality rate among international joint ventures and found that dominant joint ventures were more stable than shared joint ventures.

Several subsequent studies have not supported the findings of this study or Killing's (1983) hypothesis that dominant control joint ventures outperform shared management joint ventures (Tomlinson 1970; Beamish 1984; Bleeke and Ernst 1991; Blodgett 1992; Yan and Gray 1994). Tomlinson (1970) observed that UK joint ventures in Pakistan were more successful when the UK parent firms had a more relaxed attitude towards control. Beamish (1984) using the same scale and classification of joint ventures as Killing (1983) investigated 12 joint ventures in less developed countries and found that shared or locally dominant controlled joint ventures performed better than when the parent firm's had dominant control. He also observed that in a few number of cases dominant control was associated with unsatisfactory performance. Bleeke and Ernst (1991) also found in their study of 49 strategic alliances that split ownership was more conducive to successful alliances. Like Bleeke and Ernst (1991), Blodgett (1992) in a sample of 1000 international joint ventures also observed that ventures with equal ownership were more successful than dominant partner ventures. While Blodgett's (1992) sample was much larger than Bleeke and Ernst's (1991) she investigated the effect of change in the ownership on the stability of the joint venture. Blodgett (1992) emphasizes in her research that the measure of

instability was not related to the performance of the joint venture but rather the frequency of change in the joint venture contract. Thus Blodgett's (1992) research fails to provide a clear sense of the joint ventures success or of the achievement of the joint ventures objectives. More recently Yan and Gray (1994) also found in their study that a shared management structure of control is associated with the success of a joint venture.

In this study equity ownership was characteristic of both successful and less successful UK international strategic alliances (see Table 6.27). This suggests that while dominant control is characteristic of UK partners engaged in successful international alliances, dominant control is not influenced equity ownership. This finding is consistent with Glaister and Wu (1994) who found that UK partners engaged in international joint ventures with Chinese firms are limited in their extent to which they can control the joint venture through their influence as shareholders. As suggested in section (6.6.5.2) other mechanisms of control are adopted.

While the studies discussed above have provided a significant contribution to the control-performance relationship in joint ventures in indicating that shared management control is related to the success of international strategic alliances, the findings of this study suggests that overall control through the use of positive control mechanisms rather than negative control mechanisms is the ultimate means of managing UK international alliances.

The difference in findings may be due to the focus of the studies. Previous studies (Tomlinson 1970; Killing 1983; Beamish 1984) have tended to focus on international joint ventures in developing and less developed countries. This study focuses on UK strategic alliances in developed countries. Bleeke and Ernst (1991) investigated only 49 international strategic alliances in three different regions: the U.S. Europe and Japan, while the findings in this study are based on only UK international alliances. Their measure was based on the financial ownership rather than managerial or overall control in a sample of twenty 50:50 joint ventures of which only 60% were successful. This study had a much larger sample and measured the extent of overall control in strategic alliances that included 50:50 joint ventures, joint ventures based on equity participation and contractual arrangements that involve no equity.

Furthermore, the group of studies discussed above have focused on the division of equity and performance in international joint ventures. While these studies have provided a valuable contribution to the issue of control in international joint ventures, empirical findings have indicated that ownership plays only a limited role in the control of joint ventures (Schaan 1983; Geringer and Herbert 1989). The results of this study are supportive of Killing (1983) and Kogut (1988) indicating that UK partners with dominant control are characteristic of international strategic alliances that have higher levels of performance, but do not support the notion that this dominant control is influenced through equity ownership as the above studies have indicated. This suggests that dominant control is not a consequence of ownership (Geringer and Herbert 1989). However, it must be noted that not all of the international strategic alliances

sampled in this study are equity related. Approximately 25% of the alliances sampled were contractual agreements and just under nine percent were consortium which may or may not have been equity related. This may have affected the findings of the results in terms of equity ownership not being a significant factor of successful UK international alliances affecting dominant control.

Table 6.278 Differences in Extent of Control between Successful and Less Successful UK International Strategic Alliances in terms of Performance

Extent of Control	Successful Group		Less Successful Group		Difference	
	Mean	SD	Mean	SD	T value	Sig
Overall Control	3.05	0.63	2.72	0.99	2.15	.034*

Scale 1=UK firm have dominant control; 5=Partner firm have dominant control

*Difference significant at the 0.05 level

Since the majority of the literature supports the notion that shared management is conducive to successful alliances, the results of this proposition are surprising. However, evidence from proposition 12 suggests that there was no difference over the control of particular functions (except for pricing policy) between the two groups. This suggests that successful UK international strategic alliances may seek to exercise control over specific activities that are strategically important to them. However it may be the case that in the current study extent of control was assessed with a single measure.

In summary, it can be concluded that successful UK international strategic alliances are likely to have overall control in managing the activities of the partnership that are strategically important to them in order to achieve their

objectives. The results have also indicated that they are likely to achieve this through positive mechanisms of control rather than negative mechanisms. However, based on the evidence on the issue of control in this study, it is not possible to offer clear directions for managers to take certain courses of action to enhance management control in UK international alliances. In any case, managers need to realize that the process of control can influence the degree of control, the focus of control over activities that may be important for a partner to achieve its goals and objectives and the mechanism they use to influence control. For this reason managers must try and achieve a fit between both partners in an alliance relationship in terms of their goals and objectives. The way in which the alliance is controlled should allow both partners not only to achieve their goals and objectives but allow them to interact with each other.

- **Summary**

The t-tests have revealed that while there are significant differences in the means of successful and less successful UK international strategic alliances in terms of the behavioural characteristics, the majority of the organizational characteristics between the two groups were less significantly different. In terms of the behavioural characteristics the t-tests have indicated that relative to the less successful group, the successful group was characterized by higher levels of coordination, commitment, trust, interdependency and communication and lower levels of conflict. While the organizational attributes have been shown to differ between successful and less successful UK international alliances, they are less prominent. This suggests that behavioural attributes are eminent to the performance of UK international strategic alliances. Overall, these findings are

consistent with past research that has examined one or more of these attributes in other interorganizational contexts (Devlin and Bleackley 1988; Mohr and Spekman 1994; Kumar et al 1995; Olson and Singsuwan 1997; Monckza et al 1998).

However, this study represents a first attempt to evaluate systematically the differences between successful and less successful partnerships in terms of the behavioural and organizational characteristics within the context of UK international strategic alliances. The results confirm that UK international strategic alliances are more successful as a result of the behavioural characteristics. This suggests that behavioural characteristics distinguish successful UK international strategic alliances from less successful international alliances. Thus managers should focus on managing their alliances by striving for greater coordination, commitment, trust, interdependence and communication as well as trying to formulate an effective conflict management strategy.

6.7 Discriminant Analysis: Behavioural and Organizational Variables Affecting UK International Strategic Alliances

A further test of the propositions was obtained by application of the multivariate statistical technique of discriminant analysis (MDA). The t-tests confirmed that there are statistically significant overall differences between successful and less successful UK international strategic alliances in terms of behavioural and organizational characteristics. However, the behavioural characteristics distinguished better between successful and less successful UK international

alliances compared to organizational characteristics. The MDA will be used as an explanatory device to further test the propositions and to identify the specific behavioural and organizational variables and their relative importance in contributing to the classification of alliance success. It was intended that the raw data responses to each item in the questionnaire would provide the data input for the discriminant analysis. The total number of behavioural and organizational variables was 126. However, this number exceeded the total number of cases (one hundred and fourteen) and did not satisfy the mathematical assumption of the discriminant analysis (Klecka 1984; Hair et al 1998). For this reason it became necessary to eliminate 15 variables from the analysis.

Three single measures used to measure coordination were removed, because it was felt that these measures were reflected in the multi-item measure of coordination. For this reason they were also not included in the factor analysis. These measures included "how well do you think your activities with your partner are closely coordinated"; "how well do the different functional groups in the alliance work together towards achieving the objectives of the alliance"; and "to what extent are your firm's goals and objectives consistent with those of your alliance partner". Three variables measuring the level of trust were eliminated. Two of the variables were "the level of trust between your firm and partner firm" and "how much confidence do you have in your partner". These two variables were also not included in the factor analysis because they were single-item measures which assessed the overall level of trust. A third variable "our partner is seen as being self centered and opportunistic" was eliminated because it exhibited a low correlation in the reliability analysis and was subsequently not included in

the factor analysis. The item "how often would you say there are disagreements between your firm and your alliance partner" measuring conflict was eliminated. This measure was also not included in the factor analysis because it was a single-item measure which reflected the overall level of conflict. Question 28 measuring the quality of information was removed. In question 34, which measured the focus of control, three variables were eliminated because of missing values. The number of missing values was too great for these variables to be included.

6.7.1 Estimation of the Discriminant Function for Alliance Performance

A step-wise procedure was used to distinguish statistically between successful and less successful strategic alliances in terms of alliance performance on the basis of the 111 behavioural and organizational variables examined for the discriminant model. The variable that minimised Wilks' lambda the greatest was entered into the model first. This procedure was repeated until no other variables were related to the outcome variable significantly. Thus, the estimation process stopped after 70 steps with 56 variables constituting the discriminant function. A summary presenting the overall stepwise discriminant analysis results can be found in Table 6.29. Sixty-three variables were entered into the stepwise procedure. Seven variables were removed, leaving 56 variables that entered the discriminant function. The centroid or mean values of the discriminant function were transformed into an F statistic which was used to determine if the two groups were statistically significant. The results in Table 6.30 showed that the discriminant function proved to have considerable discriminating power between the two

groups and was highly significant at the 0.000 level. The derived discriminant function had a canonical correlation of 0.954, whose squared value (0.9101) indicates that 91.0% of the variance in the dependent variable is accounted for by this model. The results suggest that 56 behavioural and organizational variables were capable of contributing to the discrimination between successful and less successful UK international strategic alliances. This indicates that the behavioural and organizational variables are unidimensional and that relatively little overlap exists among the variables in their ability to discriminate between the two groups.

Table 6.29 Summary Table of Variables Entered / Removed into the Discriminant Analysis: Alliance Performance

Step	Variables Entered	Variables Removed	Dimension	Wilks' lambda	Significance
1	Agreement on goals/objectives of alliance		Commitment	50.263	0.000
2	Dependency on technological expertise		Interdependence	32.824	0.000
3	Participation in planning activities		Participation	25.350	0.000
4	Control over pricing policy		Focus of control	21.114	0.000
5	Motivated by profitability		Commitment	19.528	0.000
6	Conflict over conflicting goals		Conflict	17.306	0.000
7	Hesitate to give too much information		Information sharing	15.824	0.000
8	Coordinated by regular exchange of ideas		Coordination	14.943	0.000
9	Share proprietary information		Information sharing	14.050	0.000
10	Coordinated by strategic fit		Coordination	13.433	0.000
11	Joint problem solving		Conflict	12.815	0.000
12	Dependency on manufacturing capability		Interdependence	12.426	0.000
13	Motivated by necessity		Commitment	12.218	0.000
14	Control over quality control		Focus of control	11.985	0.000
15	Agreement on strategic direction		Commitment	11.811	0.000
16	Partner seeks advice		Participation	11.740	0.000
17	Participation in goal setting		Participation	11.514	0.000
18	Conflict over poor communications		Conflict	11.576	0.000
19	Organization complex / simple		Complexity	11.384	0.000
20	Smooth over issues		Conflict	11.169	0.000
21	Agreement on roles performed		Commitment	11.065	0.000
22	Agreement on daily operations		Commitment	10.935	0.000
23	Dependency on marketing capability		Interdependence	10.882	0.000
24	Dependency on market information		Interdependence	11.009	0.000
25	Equally dependent		Interdependence	10.833	0.000
26	Dependency on manpower resources		Interdependence	10.677	0.000
27	Dependency on financial resources		Interdependence	10.453	0.000
28	Partner trusted to be sincere		Trust	10.261	0.000
29	Seek partners advice		Participation	10.133	0.000
30	Share work related problems		Trust	9.993	0.000
31	Regular reporting on performance		Control mechanism	9.809	0.000
32	Dependency on sales / profits		Interdependence	9.693	0.000
33	Motivated by desire		Commitment	9.598	0.000
34	Obligated to achieve alliance goals		Commitment	9.438	0.000

Table 6.29 (continued) Summary Table of Variables Entered / Removed into the Discriminant Analysis: Alliance Performance

35	Equity ownership		Control mechanism	9.435	0.000
36	Partnership based on informal understanding		Formalization	9.463	0.000
37		Variable 25	Interdependence	9.802	0.000
38	Obligated to listen to problems		Commitment	10.045	0.000
39	Control over distribution facilities		Focus of control	9.898	0.000
40	Power of veto		Control mechanism	9.771	0.000
41	Agreement on resource allocation		Commitment	9.695	0.000
42	Partner makes effort to keep commitments		Trust	9.553	0.000
43	We can rely on each other		Trust	9.489	0.000
44	Obligated to help build relationship		Commitment	9.402	0.000
45	Organization flexible / inflexible		Complexity	9.243	0.000
46	Control over marketing / sales	Variable 39	Focus of control	9.167	0.000
47			Focus of control	9.495	0.000
48	Distrust		Conflict	9.458	0.000
49		Variable 26	Interdependence	9.753	0.000
50	Appointment of personnel		Control mechanism	9.710	0.000
51	We do not take advantage of each other		Trust	9.564	0.000
52	Partner easily replaceable		Interdependence	9.467	0.000
53	Agreement on key decisions		Commitment	9.390	0.000
54	Outside arbitration		Conflict	9.390	0.000
55		Variable 7	Information sharing	9.653	0.000
56	Obligated to satisfy partners needs		Commitment	9.691	0.000
57	Degree of conflict		Conflict	9.760	0.000
58	Agreement on conflict resolution		Commitment	9.775	0.000
59		Variable 45	Complexity	10.048	0.000
60	Organization hierarchical / informal		Complexity	10.006	0.000
61	Both parties to keep each other informed		Information sharing	9.986	0.000
62		Variable 9	Information sharing	10.308	0.000
63	Close personal ties between partners		Trust	10.279	0.000
64	Likely to switch to new partner		Interdependence	10.163	0.000
65	Partner trusted to keep promises		Trust	10.175	0.000
66	Agreement on activities performed		Commitment	10.051	0.000
67	Agreement on contractual terms		Commitment	9.972	0.000
68	Agreement on future plans		Commitment	10.061	0.000
69	Assertive and domineering		Conflict	10.034	0.000
70		Variable 6	Conflict	10.297	0.000

Table 6.30 Canonical Discriminant Functions for Successful versus Less Successful International Strategic Alliances

Discriminant Function	Eigenvalue	Canonical Correlation	Wilks' Lambda	Chi-square	Df	Significance
1	10.117	.954	.090	202.309	56	.000

6.7.2 Predictive Accuracy

As the discriminant function indicated significant overall group separation, the relative impact of each independent variable was analysed to determine the predictive accuracy of the derived discriminant function. Differentiation between successful and less successful alliances has also been shown by the examination of the differences between the group means on each discriminating variable as reported in section 6.3. The classification results have been summarized in Table 6.31. Comparing the predicted group column to the actual group column indicates that only one case has been misclassified.

Table 6.31 Classification Results : Full Original Sample Predicted Group Membership

Actual Group	Number of Cases	Predicted Group Membership		% of Cases Correctly Classified
		Successful Alliances	Less Successful	
Successful Alliances	64	64 (100%)	0 (0)	99.1%
Less Successful Alliances	50	1 (2%)	49 (98%)	
Total	114	65	49	

The results showed that 49 of the 50 observations in the group "less successful alliances" were correctly classified as coming from this group while all 64 observations belonging to the group "successful alliances" were correctly classified for that group. These results indicated that the classification rule

provided correct classifications approximately 99.1 percent of the time if we use it to predict the group membership of strategic alliances.

In assessing the validity of the discriminant function the study employed the single observation U-method holdout jackknife procedure (Dillon 1979). As shown in Table 6.32 the validated classification analysis indicated that approximately 96.9% of the successful cases and 92% of the less successful cases could be classified correctly by the discriminant function resulting in an overall hit ratio of 94.7%.

Table 6.32 Classification Results : Validated Sample Predicted Group Membership

Actual Group	Number of Cases	Predicted Group Membership		Prior Probability	% of Cases Above Cprop	% of Cases Correctly Classified
		Successful Alliances	Less Successful Alliances			
Successful Alliances	64	62 (100%)	2 (0)	.56	44.2%	94.7%
Less Successful Alliances	50	4 (2%)	46 (98%)	.44		
Total	114	66	51	-		

As a further test, the upward bias in the classification results was evaluated by using the proportional chance criterion to test the validity of the model. This criterion gave a value of 50.5 percent, while the maximum chance criterion, exhibiting the proportion of correct classifications if all cases fall into the larger group, yielded a value of 56.1 percent. Since the resulting overall classification accuracy of the validated sample (94.7 percent) is substantially higher than the values of both the proportional and maximum chance criteria, the derived function

can be considered valid. These results indicated that the predictor variables are important discriminators of successful alliances.

6.7.3 Discriminating Behavioural and Organizational Characteristics

The MDA has distinguished statistically between successful and less successful international strategic alliances on the basis of 56 behavioural and organizational characteristics. As a further examination of the differences between successful and less successful UK international strategic alliances the relative impact of each behavioural and organizational characteristic was analysed by considering the within-groups structure coefficients also referred to as discriminant loadings. These coefficients enabled the assessment of the relative importance of individual variables to the overall function.

Table 6.33 shows the 56 variables that best discriminated between successful and less successful UK international strategic alliances. However an examination of the means of all the significant behavioural and organizational variables for the two groups allows a profile of the differences between successful and less successful UK international alliances to be built. The Univariate F statistics show that 38 out of the 56 discriminating variables are significant.

6.7.3.1 Discriminating Variables: Partnership Attributes

- **Coordination**

The stepwise analysis has shown (see Table 6.29) that for coordination two variables (*exchange of ideas between partners* and *strategic fit*) significantly

contributed in discriminating between successful and less successful UK international strategic alliances. However, an examination of the means in Table 6.33 has shown that the *exchange of ideas between partners* significantly discriminates between the two groups, while *strategic fit* does not. This suggests that there is a regular exchange of ideas between partners in successful UK international strategic alliances. The t-test also found *exchange of ideas between partners* to be an important characteristic of coordination of successful alliances, with no significant difference shown for *strategic fit*. Thus, the discriminant analysis provides further support that UK firms engaged in successful international strategic alliances coordinate through regularly exchanging ideas with their partners and through developing strategies suitable to both parties.

As indicated earlier (see proposition 1 in section 6.6) while previous research found coordination to be associated with alliance success (Mohr and Spekman 1994; Monckza et al 1998) both studies used insufficient measures to assess coordination. Furthermore, their measurement did not assess either *exchange of ideas between partners*. In view of this the MDA results together with the t-tests provide incomparable findings for the proposition that the level of coordination for successful UK international strategic alliances will be higher. There is no reasonable explanation for why the variable *strategic fit* was included as one of the most discriminating characteristics of coordination between the two groups, since as already indicated strategic fit was non-significant in the t-test analysis and also this item had a low item-to-total correlation in the reliability analysis (see section 5.3).

Table 6.33 Summary Results of Discriminant Analysis Between Successful and Less Successful UK International Strategic Alliances

Dimension	Behavioural and Organizational Characteristics	Mean Score for Successful Group	Mean Score for Less Successful Group	F	P	Discriminant Loading		
Coordination	Regular exchange of ideas	4.08	3.00	35.61	.000	0.04		
Coordination	Strategic fit	2.36	2.64	1.08	Ns	0.18		
Interdependence	Dependency on technological expertise	2.78	1.84	21.16	.000	0.14		
Interdependence	Dependency on manufacturing capability	1.95	1.36	0.92	0.10	0.08		
Interdependence	Dependency on sales/profits	2.45	2.00	3.671	Ns	0.06		
Interdependence	Dependency on marketing	2.70	2.40	1.393	Ns	0.04		
Interdependence	Dependency on market information	2.56	2.48	0.123	Ns	0.01		
Interdependence	Dependency on financial resources	1.67	1.86	0.794	Ns	-0.03		
Interdependence	Partner replaceable	2.59	1.16	1.12	0.593	Ns	-0.2	
Interdependence	Likely to switch new partner	1.72	0.98	2.42	1.40	9.840	.002	-0.9
Commitment	Agreement on goals/objectives of alliance	4.31	3.00	50.263	.000	0.21		
Commitment	Agreement on activities performed	3.80	2.80	0.97	37.04	.000	0.18	
Commitment	Agreement on future plans	3.77	2.74	1.03	30.88	.000	0.17	
Commitment	Agreement on strategic direction	3.98	3.02	1.22	25.21	.000	0.15	
Commitment	Agreement on resource allocation	3.58	2.74	1.03	18.84	.000	0.13	
Commitment	Agreement on conflict resolution	3.67	2.88	1.02	17.39	.000	0.13	
Commitment	Agreement on key decisions	3.78	2.94	1.02	20.27	.000	0.13	
Commitment	Agreement on daily operations	3.81	0.99	1.03	12.50	.001	0.11	
Commitment	Agreement on roles performed	3.94	0.87	3.44	1.05	7.623	.007	0.08
Commitment	Agreement on contractual terms	3.98	1.00	3.36	1.17	9.391	.003	0.01
Commitment	Obligated to help build relationship	4.22	0.86	3.40	1.01	21.74	.000	0.14
Commitment	Obligated to satisfy partner needs	4.14	0.83	3.34	1.00	21.68	.000	0.14
Commitment	Obligated to achieve alliance goals	4.39	0.66	3.74	0.88	20.52	.000	0.10
Commitment	Obligated to listen to problems	4.34	0.74	3.38	0.89	10.91	.001	0.10
Commitment	Motivated by profitability	4.39	0.75	3.22	1.39	33.19	.000	0.17
Commitment	Motivated by desire	4.09	0.83	3.10	1.22	26.78	.000	0.15
Commitment	Motivated by necessity	3.16	1.20	2.42	1.40	9.132	.003	0.09
Trust	We can rely on each other	3.84	0.98	2.86	0.86	31.54	.000	0.17
Trust	Partner makes effort to keep commitments	3.84	0.80	3.22	0.82	16.75	.000	0.12
Trust	Share work related problems	3.61	0.90	2.90	0.99	15.86	.000	0.12
Trust	Partner trusted to be sincere	4.00	0.85	3.4	0.93	12.86	.000	0.11
Trust	We do not take advantage of each other	3.77	0.89	3.20	0.97	10.53	.002	0.10
Trust	Close personal ties between partners	3.59	1.02	2.98	0.98	10.53	.002	0.10
Trust	Partner trusted to keep promises	3.95	0.92	3.32	1.02	12.15	.001	0.10

Table 6.33 (continued) Summary Results of Discriminant Analysis Between Successful and Less Successful UK International

Dimension	Behavioural and Organizational Characteristics	Mean Score for Successful Group	Mean Score for Less Successful Group	F	P	Discriminant Loading
Participation	Partner seeks advice	3.27	2.24	26.76	.000	0.15
Participation	Participation in planning activities	3.22	2.28	18.59	.000	0.13
Participation	Participation in goal setting	3.84	3.00	18.58	.000	0.13
Participation	Seeks partners advice	3.44	2.76	10.24	.002	0.10
Information Sharing	Both parties to keep each other informed	4.20	3.58	14.44	.000	0.11
Conflict	Poor communications	2.94	3.12	0.851	Ns	-0.3
Conflict	Distrust	2.09	2.52	1.408	Ns	-0.4
Conflict	Degree of conflict	2.19	2.84	12.12	.001	-0.10
Conflict	Joint problem solving	3.81	3.40	6.544	.012	0.08
Conflict	Smooth over issues	3.03	2.94	0.255	Ns	0.02
Conflict	Assertive and domineering	2.41	2.34	0.120	Ns	0.01
Conflict	Outside arbitration	1.22	1.24	0.031	Ns	-0.0
Structure / Organization	Organization complex/informal	2.91	3.18	1.774	Ns	-0.4
Structure / Organization	Organization simple	3.11	3.32	0.770	Ns	-0.3
Structure / Formalization	Informal partnership	3.16	2.76	3.133	Ns	0.05
Control Focus	Control over pricing policy	3.23	2.62	9.324	.003	0.09
Control Focus	Control over marketing/sales	3.17	2.86	2.263	Ns	0.05
Control Focus	Control over quality control	2.78	2.88	0.216	Ns	-0.01
Control Mechanism	Regular reporting on performance	3.95	3.60	3.966	.049	0.06
Control Mechanism	Appointment of personnel	3.80	3.38	3.137	Ns	0.05
Control Mechanism	Equity ownership	2.59	2.70	1.43	Ns	-0.01
Control Mechanism	Power of veto	1.63	2.12	5.491	.021	-0.07

- **Interdependence**

In testing proposition 2, it can be seen that eight variables concerning interdependence were identified as good discriminators between successful and less successful UK international strategic alliances (see Table 6.29). These included dependency on *technological expertise, manufacturing capability, marketing capability, market information, financial resources and sales and profits, partner easily replaceable and likely to switch to new partner*. Table 6.33 clearly indicates that dependency on technological expertise and manufacturing capabilities are the best discriminators between the two groups, while dependency on market information, marketing, financial resources and sales and marketing have less discriminatory power. The means also clearly show that UK firms engaged in successful international strategic alliances are more likely to be dependent upon their partners for technological expertise and manufacturing capabilities. This clearly support the findings of the t-tests (see proposition 2 in section 6.6) which found significant differences between the two groups for dependency on technological expertise and manufacturing suggesting that successful UK international alliances attach greater importance to their partners technological expertise and manufacturing capabilities.

The results in Table 6.33 also indicate that replacing an existing partner easily and switching to a new partner make a negative contribution to the success of the alliance and are more characteristic of less successful UK international alliances. The t-tests indicated that UK international alliances less satisfied with their performance were more likely to switch to a new partner. Combined, these findings confirm previous research that low mutual dependence decreases alliance

performance (Heide and John 1988; Buchanan 1992; Monckza et al 1998) since the evidence here suggests that UK firms engaged in less satisfied alliances are less dependent on their partners and are thus more likely to switch to a new partner. Therefore, the results of the MDA provide support for proposition 2.

- **Commitment**

For commitment, 17 variables discriminated between successful and less successful UK international strategic alliances (see Tables 6.29 and 6.33). Both the stepwise analysis and means scores suggest that commitment is characteristic of successful UK international alliances. The results suggest that commitment variables exercising the most influence on the overall differences between successful and less successful UK international strategic alliances are agreement on: *goals and objectives of alliance, strategic direction, daily operations, roles and functions performed, contractual terms, future plans, resource allocation, key alliance decisions, conflict resolution and activities performed; encouraged to achieve alliance goals and objectives, to help build the relationship, satisfy partner needs and listen to their problems; motivated by profitability, desire and necessity*. The positive signs of the discriminant loadings indicate that, in comparison with successful UK international alliances, less successful UK international alliances perceived all 17 commitment variables as significantly less important in satisfying the level of their performance. The results suggest that agreement between partners over the goals and objectives of the alliance is the single most important discriminating factor between successful and less successful UK international strategic alliances. Here, commitment reflects the acceptance of the goals and values of the alliance. Partners in successful

international alliances also give higher priority to the way in which activities are performed, commitment to future plans and prospects and the strategic direction of the alliance to show their identification to the goals of the alliance. Also, putting effort and investment into building the alliance relationship and trying to satisfy each others needs are the most important ways in which partners in successful international alliances show their responsibility to meeting the goals and objectives of the alliance. Finally, profitability and desire are more significant than necessity for maintaining the alliance relationship. Regarding such differences between successful and less successful UK international alliances, the MDA results provide additional support for the t-tests (see section 6.3) and proposition 3 that successful UK international alliances are more likely to be committed in terms of accepting the alliance goals and values, are willing to make an effort to achieve these goals and objectives through maintaining a long-term relationship.

- **Trust**

Regarding trust between international partners the MDA (see Tables 6.29 and 6.33) indicated that the most significant discriminators of trust between the two groups were: *partner trusted to be sincere, share work related problems, partner makes effort to keep commitments, rely on each other, do not take advantage of each other, close personal ties between partners, partner trusted to keep promises*. The results in Table 6.33 also indicate that while these characteristics of trust are important for successful UK international alliances, they are less significant for less successful alliances, probably because these characteristics are not seen to contribute to the alliance performance (Mohr and Spekman 1994).

The discriminant analysis also highlights that relying on each other when it counts is the most significant factor of trust for partners in successful international alliances. This aspect of trust highlights the confidence that partners have in each other to keep promises and be sincere through commitments and close personal ties and thus not taking advantage of each other. Thus the results strongly support the t-tests that successful UK international strategic alliances find the trust to be more important in their relationships compared to less successful international alliances.

6.7.3.2 Discriminating Variables: Communication Attributes

In terms of communication attributes, the MDA determined that *both parties keep each other informed, participation in planning activities, partner seeks advice of UK firm, participation in goal setting, UK firm seeks partners advice* are the most significant discriminators between successful and less successful UK international strategic alliances. The measures for the quality of information were not included in the discriminant analysis as explained earlier and consequently no support for proposition 5 can be provided here. Regarding the sharing of information, in successful UK international strategic alliances, both parties are expected to keep each other informed about events or changes that may affect the other (see Table 6.33). This finding is supportive of the t-test which showed the variable "both parties keep each other informed" to be the most important characteristic of successful UK international alliances when sharing information. Therefore, there is some support for proposition 6 provided by this result. The extent to which partners participate emerged as the as the most discriminating of the communication attributes. The MDA results of the data grouped by the level of

participation indicated that participating in goal setting and planning activities are of great importance to UK firms engaged in successful international alliances, while seeking each others advice before making decisions is also critical for both parties in successful alliances. These findings are also supportive of the t-tests, suggesting that input to decision-making and goal setting through participation are important aspects of successful UK international strategic alliances. Therefore, further support for proposition 7 is provided.

6.7.3.3 Discriminating Variables: Conflict

The MDA evidences that six significant conflict variables distinguish most between successful and less successful UK international alliances. In terms of conflict these are *poor communications* and *distrust* and the *degree of conflict*. The conflict resolution mechanisms used include *joint problem solving*, *smooth over issues*, *outside arbitration*, *assertive* and *domineering*. From the analysis it can be seen (Table 6.33), that the degree of conflict is highest for less successful UK international strategic alliances. In interpreting the means it can be seen that a higher degree of conflict associated with poor communications, distrust are more characteristic of inter-partner conflict for less successful UK international strategic alliances compared to successful alliances. These findings are also highlighted by the negative discriminant loadings shown in Table 6.33. This supports previous research that conflicts are intrinsic of less successful alliances (Killing 1983; Habib 1987; Tilman 1990) and supportive of the t-tests which also highlighted that less satisfied UK international strategic alliances are more likely to experience conflict. The discriminant analysis further highlights the higher level of importance given by successful UK international alliances to resolving

conflicts through joint problem solving. Other conflict resolution *techniques* (*smooth over issues, outside arbitration and assertive and domineering*) are of least importance to successful UK alliances. This may be because successful international alliances are more likely to engage in joint problem solving since outcomes based on cooperation are more satisfying and are more likely to meet the needs of both parties (Mohr and Spekman 1994). This finding also offers additional support to the t-test that successful UK international alliances are more likely to engage in joint problem solving and thus is consistent with previous research that joint problem solving is characteristic of successful partnerships (Mohr and Spekman 1994; Monckza et al 1998). Accordingly, additional support for proposition 8 is provided that successful UK international alliances experience a lower level of conflict.

6.7.3.4 Discriminating Variables: Structure

In terms of structure the MDA (see Table 6.29) distinguished between the two groups in terms of *complexity, hierarchy and partnership based on an informal understanding*. While the Univariate statistics in Table 6.33 showed no significant differences between successful and less successful UK international alliances, the interpretation of the means suggest that while successful UK international alliances are more likely to have partnerships based on a shared informal understanding, less successful alliances are more likely to be complex and hierarchical in their organizational arrangement. These findings are consistent with the t-tests that also highlighted that there are no significant differences between the two groups in terms of either the extent of formalization or the way in which the international alliance is organized. The MDA (see Table

6.29 and 6.33) evidently indicates that partnerships based on a shared informal understanding may be a key dimension of successful international alliances and thus may have some significance on the alliance performance. Therefore, there is some superficial support for proposition 9 that successful UK international alliances will be less formalized in their approach to managing activities and relationships compared to less successful alliances. In addition the results also provide weak support for proposition 11 that successful UK international strategic alliances will have simpler levels of organizational arrangements compared to less successful alliances. While previous research has posited that complexity leads to distrust in partnerships (Moorman et al 1993), these findings have demonstrated that high complexity and hierarchy are characteristic of less successful UK international strategic alliances and may have a negative impact on the performance of the alliance. The MDA did not discriminate between successful and less successful UK international alliances in terms of centralized activities and relationships and thus no support is provided for proposition 10.

6.7.3.5 Discriminating Variables: Control

The most significant areas over which UK international strategic alliances are likely to seek control over include *pricing policy, marketing and sales* and *quality control*. The results in Table 6.29 indicated that pricing policy and marketing and sales emerged as the most significant discriminators between successful and less successful UK international strategic alliances, while quality control was slightly less important. This analysis confirms the t-test findings that control over pricing policy are more important for UK firms engaged in successful international strategic alliances. In addition, the results evidence that quality control and

marketing and sales also represent a relative contribution to the discrimination. Thus the findings suggest that UK successful international alliances perceive control over these activities to effect alliance performance and provide some support to previous research that international strategic alliances that seek to focus their control over strategically important activities are more likely to be successful (Schaan 1983; Geringer and Herbert 1989). Accordingly there is some support for proposition 12.

Four control mechanisms used to monitor international alliance activities were also derived from the function as discriminators between the two groups (*regular reporting on performance, appointment of key personnel to important activities, power of veto and equity ownership*). The positive discriminant loadings in Table 6.33 indicated that regular reporting on performance and appointment of key personnel to important activities are most characteristic of UK international strategic alliances while power of veto and equity ownership indicated by the negative sign are given least emphasis and are thus more likely to have a negative impact upon the alliance. However, the means showed that while UK partners of successful international strategic alliances are more likely to appoint key personnel, the most important mechanism they use for monitoring alliance activities are reporting regularly on performance. Likewise, the results have suggested that less successful alliances pay greater attention to both power of veto and equity ownership, though power of veto is more significant. Therefore, it appears that successful UK international alliances are more likely to direct control through regular reporting on performance and appointment of key personnel to important activities, while more less successful UK international alliances are

probably likely to give more importance to power of veto and equity ownership as mechanisms to monitor alliance activities. These types of activities have been referred to as positive and negative control mechanisms (Schaan 1983) and have been shown by the t-tests to impact the performance of international alliances. Thus the results of the MDA provide some support for the t-test as well as proposition 14.

Finally, proposition 13 was not supported by the MDA results since the extent of control was not found to discriminate between successful and less successful international strategic alliances and was thus not in the stepwise analysis results.

- **Summary**

The results of the MDA above has again evidenced the significant role played by the behavioural and organizational characteristics in distinguishing between successful and less successful UK international strategic alliances. The behavioural attributes received solid empirical support since they constituted 45 of the total 56 variables that discriminated between the two groups. This finding has affirmed the significance of behavioural characteristics in international strategic alliances and provides additional insight in distinguishing between successful and less successful UK international strategic alliances. Therefore the results provide additional support to the t-tests in confirming the importance of the behavioural characteristics.

The implication of the MDA for the research as a whole is its value in testing the viability of the behavioural and organizational in classifying successful and less

successful UK international strategic alliances. The discriminant analysis has indicated that the UK international strategic alliances studied can be classified, on the basis of the behavioural and organizational variables into successful and less successful alliances with a very high degree of accuracy. Furthermore, the accurate classifications of the discriminant functions provide additional support that the survey instruments employed were reasonably capable of measuring and reflecting the difference between the two groups.

6.8 RELATIONSHIP BETWEEN BEHAVIOURAL AND ORGANIZATIONAL CHARACTERISTICS AND ALLIANCE PERFORMANCE

6.8.1 Regression Analysis

To investigate the combined effect of the behavioural and organizational characteristics on the success of international alliances, multiple regression analysis was undertaken with each of the dependent variables measuring success. All the identified factors from the factor analysis were used as the explanatory variables (independent variables). The predictors and independent measures are presented in Table 6.34.

The behavioural and organizational factors were regressed for each measure of the dependent variables, in order to identify the influence of behavioural and organizational factors that might be related to each of the different aspects of success. The justification for running the regression model for each single measure of the dependent variables was to realise how much explanatory power

do the independent variables have for each dependent measure. If for example a summated score of the dependent measures (market share, profitability, and sales growth) were used, then it would not be possible to know how much of the dependent variable is significant because of market share, profitability or sales growth. Therefore, 16 separate regression models (one for each outcome success item) were examined. For each regression model, all the thirteen behavioural factors, and seven organizational factors produced by the factor analysis were included as potential predictors. Only the result for the three dependent measures of alliance performance (*market share, profitability and sales growth*) will be reported here. The regression results for 16 measures of alliance satisfaction will be reported in Appendix 5.

The regression analysis estimates the significance of the coefficients corresponding to the set of propositions and assesses the changes in the proportion of variance explained (R^2) and the statistical significance of each of the independent variables. The regression model was defined as:

$$Y = a + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 \dots + \beta_{20} X_{20}$$

Where Y represents the measures of success (dependent measures) and a is the intercept. The intercept is the expected value of Y when the value for each X variable are zero. The X_1, X_2, X_3 are the behavioural and organizational characteristics (independent variables), and $\beta_1, \beta_2, \beta_3$, are the regression coefficients for the twenty independent variables. The coefficients are the amount by which the expected value of y increases when X_1 increases by a unit amount,

when all the other X variables are held constant (Tabachnick and Fidell 1989; Afifi and Clark 1996; Hair et al 1998).

Table 6.34 The Independent and Dependent Measures used in the Regression Analysis.

Independent Variables	Dependent Measures
<p>Behavioural Factors</p> <p>Factor 1 = Trust in partner = $\beta 1$</p> <p>Factor 2 = Commitment to alliance goals = $\beta 2$</p> <p>Factor 3 = Committed to alliance by obligation = $\beta 3$</p> <p>Factor 4 = Commitment to stay in relationship = $\beta 4$</p> <p>Factor 5 = Information quality = $\beta 5$</p> <p>Factor 6 = Dependency on marketing capabilities = $\beta 6$</p> <p>Factor 7 = Coordination between partner firms = $\beta 7$</p> <p>Factor 8 = Information sharing = $\beta 8$</p> <p>Factor 9 = Participation = $\beta 9$</p> <p>Factor 10 = Conflict = $\beta 10$</p> <p>Factor 11 = Dependency on administrative support = $\beta 11$</p> <p>Factor 12 = Dependency on management skills = $\beta 12$</p> <p>Factor 13 = Dependency on financial resources = $\beta 13$</p>	<p>Alliance Performance</p> <p>Market Share Y1</p> <p>Profitability Y2</p> <p>Sales Growth Y3</p>
<p>Organizational Factors</p> <p>Factor 1 = Operational control = $\beta 14$</p> <p>Factor 2 = Technological Control = $\beta 15$</p> <p>Factor 3 = Informal Control mechanisms = $\beta 16$</p> <p>Factor 4 = Formal Control mechanisms = $\beta 17$</p> <p>Factor 5 = Centralized decision-making = $\beta 18$</p> <p>Factor 6 = Organization of alliance = $\beta 19$</p> <p>Factor 7 = Formalization = $\beta 20$</p>	

6.8.2 Regression Model Testing.

All the behavioural and organizational factors were entered simultaneously as predictors of the 16 dependent measures of success. The specific variables identified as significant predictors, the resulting standardized beta weights, and the percentage of variance explained for each of the success items are presented in Table 6.35. The regression analysis produced a number of interesting results. The overall goodness of fit for each of the success measures was quite high, ranging from 53.2 % to 72.9%. This has indicated that a high proportion of the variation in each of the dependent measures was explained by the explanatory variables. However, the alliance performance measures, profitability (47.4%) and sales growth (40%) group had slightly lower goodness of fit.

To test the hypothesis that the amount of variation explained by the regression model is more than the variation explained by the average, the F statistic was used. Table 6.35 gives the results of the 3 regression equations of the independent variables that were generated by factor analysis. In general the results of the regression analysis were reliable. The F statistic (see Table 6.35) for each of the 3 regression equations exceeded the F critical with 93 degrees of freedom at the 0.01 level and therefore, it can be concluded that each regression model has significant explanatory power. This means collectively the predictors explain some variation in every case. The statistical significance of the individual regression coefficients are presented in Table 6.35. These coefficients indicate the relative importance of each predictor in the prediction of each of the dependent measures of success.

Table 6.35 Regression Coefficients for Behavioural Factors

Dependent Measures	Constant	b1	b2	b3	b4	b5	b6	b7	b8	b9	b10	b11	b12	b13	R2	F Statistic
Y1	3.447	.407** (.081)	.222** (.096)	.0306 (.101)	.291** (.080)	.233** (.081)	.003 (.085)	.229** (.086)	.312** (.084)	.025 (.083)	.025 (.085)	-.255** (.082)	.163* (.083)	-.130 (.081)	.569	6.156
Y2	3.430	.312** (.092)	.384** (.112)	.355** (.116)	.405** (.092)	.228** (.093)	.026 (.097)	.296** (.098)	.219* (.096)	.198* (.094)	.023 (.097)	-.235** (.093)	-.009 (.095)	-.066 (.093)	.474	4.185
Y3	3.482	.237** (.083)	.085 (.102)	.116 (.105)	.271** (.083)	.139 (.084)	.060 (.088)	.272** (.089)	.226** (.087)	.054 (.085)	.054 (.088)	-.116 (.085)	.089 (.086)	-.101 (.084)	.400	3.104

Table 6.35 (continued) Regression Coefficients for Organizational Factors

Dependent Measures	Constant	b14	b15	b16	b17	b18	b19	b20	R2	F Statistic
Y1	3.447	.044 (.083)	-.080 (.082)	.137 (.121)	-.068 (.089)	.064 (.088)	.278** (.091)	.118 (.085)	.569	6.156
Y2	3.430	-.172* (.094)	-.022 (.094)	-.232* (.138)	-.103 (.102)	-.091 (.100)	.022 (.104)	.078 (.097)	.474	4.185
Y3	3.482	.124 (.085)	.074 (.085)	.017 (.125)	-.136 (.093)	.019 (.091)	.178 (.095)	.010* (.088)	.400	3.104

* Significance at 0.01 level
 ** Significance at 0.1 level
 *** Significance at 0.05 level

Behavioural Factors: b1 = factor 1; b2 = factor 2; b3 = factor 3; b4 = factor 4; b5 = factor 5; b6 = factor 6; b7 = factor 7; b8 = factor 8; b9 = factor 9; b10 = factor 10; b11 = factor 11; b12 = factor 12; b13 = factor 13

Organizational Factors: b14 = factor 1; b15 = factor 2; b16 = factor 3; b17 = factor 4; b18 = factor 5; b19 = factor 6; b20 = factor 7

Y1 = market share
 Y2 = profitability
 Y3 = sales growth

All significant predictors are highlighted. Furthermore, the interpretation of the regression coefficients were not adversely affected by multicollinearity. All tolerance values were quite high and VIF values were close to 1.0.

6.8.3 Relationship between Partnership Attributes and Alliance Performance

6.8.3.1 Coordination

The regression analysis (see Table 6.35) has shown that coordination has a positive relationship with the success of UK international strategic alliances. Coordination (factor 7) was positively related to all three measures of alliance performance (*market share, profitability and sales growth*). This suggests that the higher the level of coordination between partners in UK international strategic alliances, the greater the success of the alliance in terms of market share, profitability and sales growth. While the regression analysis findings indicate that coordination is a good predictor of alliance performance, it must be considered that the coordination factor (factor 7) consisted of only two variables that related to how well the partners integrated with each other in their relationship. The two measures reflected in factor seven "UK firm integrated with partner" and "partner integrated with UK firm" were also found to be characteristic of successful UK international alliances by the t-tests. However, factor seven represents coordination in terms of the integration between partners and the regression analysis correlated factor seven positively with each of the three measures of alliance performance. Furthermore, both Mohr and Spekman (1994) and Monckza et al 1998) who showed coordination to be positively correlated with

partnership success, investigated coordination with a limited number of reliable measures.

The findings of this study provide more effective results concerning coordination to earlier research because coordination has been identified as a significant characteristic of successful UK international strategic alliances as well as predicting alliance success. Thus the regression analysis provides additional support to both the t-tests and the MDA.

6.8.3.2 Interdependence

There were four factors of interdependence in the regression analysis: dependence on marketing capabilities, which included *marketing, market information, customer service and sales and profits*; administrative capabilities; management capabilities and financial capabilities. These related to the UK firm's dependence on their partner. Both marketing capabilities and financial resources factors were found not to be associated with alliance success. The results in Table 6.35 showed that marketing capabilities and financial resources are not significant in predicting alliance performance (*market share, profitability and sales growth*). This suggests that the dependence of the UK firm on the marketing capabilities and financial resources of their partner does not influence the alliance performance in terms of market share, profitability and sales growth. While these results support the t-tests that showed no significant differences between the two groups, the MDA suggested that marketing capability, market information, sales and profits and financial resources were good discriminators between successful and less successful international alliances. The UK firm's dependency on their partner's administrative capabilities was found to have a significant negative

relationship with alliance performance (*market share and profitability*). The beta coefficients in Table 6.35 indicated that the higher the dependence of the UK firm on the administrative capabilities of their partner the lower the alliance performance in terms of market share and profitability. Both the t-tests and the MDA did not observe administrative capabilities to be a significant attribute of successful UK alliances. In addition, dependency on management skills was positively significant with alliance performance (*market share*). This finding supports the t-test which found a significant difference between the two groups for dependency on management skills.

All three analyses (t-test, MDA and regression) have indicated that the UK firm is dependent upon its international partners for various resources. While the t-tests showed that UK firms engaged in successful international strategic alliances are likely to be dependent on the technological, manufacturing and management capabilities of their partner, the MDA established that a combination of technological, manufacturing, sales and profits, marketing, market information and financial capabilities have the greatest discriminatory power for characterizing successful UK international alliances in terms of their dependency. Finally, the regression analysis predicted that UK dependency on their international partners is related to management and administrative skills. These findings thus indicate that international partners provide their UK partners with critical and important resources and are thus supportive of the view that such resources are essential for the firm's operation because of limited availability (Buchanan 1992).

6.8.3.3 Commitment

The results in Table 6.35 revealed that commitment was positively associated with the success of UK international strategic alliances. The positive and significant beta coefficients showed that commitment between partners in UK international strategic alliances leads to higher alliance performance (*market share, profitability and sales growth*). Thus the presence of commitment in UK international alliances are found to be positively related with the success of the alliance. The t-tests showed significant differences between the two groups for all the commitment measures on a mean score of market share, sales growth and market share. However the regression analysis used the factor scores (factors 2,3 and 4) for commitment to predict profitability, sales growth and market share and indicated that not all three factors correlated with all three measures of alliance performance. Table 6.35 shows that commitment to alliance goals (factor 2) is positively correlated with market share and profitability; willingness to commit (factor 3) correlates positively with profitability and commitment to stay in the relationship (factor 4) is positively correlated with all three measures of alliance performance. This suggests that profitability has the strongest correlations, evidencing commitment to alliance goals, willingness to commit and commitment to stay in the relationship. The MDA also identified 17 commitment measures that discriminate the most between successful and less successful alliances that reflected commitment to alliance goals, willingness to commit and desire to maintain the relationship. Thus it has been verified by the t-test and MDA that committed partners in UK international strategic alliances are more likely to commit to goals and objectives of the alliance, exert effort to assist in sustaining the relationship as well as demonstrate their commitment by willingly adopting a

long-term perspective regarding their involvement in the relationship. The regression findings explained that as the level of commitment between partners in UK international strategic alliances increases, the market share, profitability and sales growth of the international alliance is improved. The regression analysis also offers greater explanatory power for predicting the alliance performance of UK international strategic alliances because commitment was assessed with each of the three measures of alliance performance rather than a mean score as in the t-tests and the MDA.

Previous research has investigated commitment using different measures and have assessed only a fraction of the measures used in this study and a lesser number of measures. For instance researchers that have predicted commitment to be associated with partnership success (Mohr and Spekman 1994; Olson and Singsuwan 1997; Monckza et al 1998) used limited measures of commitment and have thus not emphasized the characteristics of commitment assessed in the current study.

The regression analysis clearly supports the findings of the t-tests which highlighted significant differences between successful and less successful UK international alliances in terms of commitment and the MDA which indicated the most important commitment measures to distinguish between the two groups. Thus overall these strong consistent findings suggest that commitment is a characteristic of success in UK international strategic alliances and thus provide additional support to previous empirical evidence (Beamish 1988; Anderson and

Narus 1990; Anderson and Weitz 1992; Mohr and Spekman 1994; Monckza et al 1998).

6.8.3.4 Trust

The regression results (see Table 6.35) indicate that trust (factor 1) is positively related to alliance performance (*market share, profitability and sales growth*) and is thus a good predictor of alliance success. These findings suggest that a higher level of trust between partners engaged in UK international strategic alliances is likely to result in higher alliance performance. Both the t-tests and MDA found strong support for trust as a characteristic of successful alliances. While the t-tests showed that partner's in successful UK international strategic alliances are more likely to be trustworthy and more willing to rely on each other the MDA determined the most important characteristics of trust for successful UK international strategic alliances. Thus the empirical analysis of the current study has indicated that the presence of trust between partners in UK international alliances is an essential characteristic of alliance performance. Thus trust has been identified as an essential element for the UK partner if the alliance is to operate successfully. The findings support (Williamson 1985; Ouchi 1980; Beamish and Banks 1988) who argued that mutual trust reduces the temptation for either partner to take advantage of the other, thus reducing opportunistic behaviour. In the current study, opportunistic behaviour was greater for less successful alliances. The variable "we do not take advantage of each other" was included in the trust factor used in the regression equation. This variable was also found to be significantly different for successful and less successful alliances in the MDA.

As stated the importance of trust between partners in UK international alliances has been made more evident with the regression analysis that has associated trust with alliance performance. In particular the trust factor (factor 1) used in the regression analysis emerged as the main characteristic of UK international strategic alliances (see section 5.2). This provides greater support for the regression results that positively associated trust with alliance performance.

6.8.4 Relationship between Communication Attributes and Alliance Performance

6.8.4.1 Quality of Information

The regression analysis results in Table 6.35 revealed that information quality (factor 5) was positively related to the dependent variable alliance performance in terms of market share and profitability. Factor five loaded on all the five measures assessing information quality. While the t-tests found significant differences between the two groups for only three measures of information quality (see section 6.6) they were tested with a mean score of market share, profitability and sales growth. Accordingly, the t-tests suggested that successful UK international strategic alliances are more likely to be manifested with adequate, credible and complete information, while the regression analysis indicated that a higher market share and profitability is related to the quality of information communicated between alliance partners. Thus there is strong support that information quality in international strategic alliances is a good predictor for alliance performance.

6.8.4.2 Information Sharing

The findings in Table 6.35 also suggested that the extent of information sharing (factor 8) is positively associated with all three measures of alliance performance (market share, profitability and sales growth). The information sharing factor is comprised of the variables *both parties keep each other informed, we inform partner of changes* and *we share proprietary information with partner*. The evidence therefore suggests that sharing of information between partners and keeping each other informed about changing needs and activities are important for successful UK international strategic alliances. The variable "hesitate to give information" was found not to be a predictor of alliance performance. Therefore, while the regression analysis suggests that the greater the amount of information sharing between partners in UK international strategic alliances, the higher the alliance performance, the t-tests showed that there will be a higher level of information sharing between partners in successful UK international compared to less successful alliances. The findings of both tests imply that the sharing of information between partners in UK international strategic alliances is indeed robust, and is characteristic of alliance performance.

6.8.4.3 Close Relationship

The communication attribute participation did not result in a factor that reflected the extent to which partners engaged in planning and goal setting. Only one variable from participation (*we hold regular meetings with our partner*) loaded on factor nine with one variable from the trust dimension (*we have close personal ties with our partner*). Accordingly, it was perceived that this factor reflected a close relationship between partners rather than participation in planning and goal

setting. Nevertheless the results in Table 6.35 suggested that a close relationship is positively associated with alliance performance in terms of profitability. While the t-tests showed significant differences between the two groups for both variables in factor nine, the MDA identified only "we have close personal ties with our partner" as an important discriminator of the trust dimension. It would appear from these results that evidence of the two measures in factor nine have been found to be characteristic of successful UK international strategic alliances in both the t-test and the MDA. Therefore, the regression analysis has provided further support that "we have close personal ties with our partner" and "we hold regular meetings with partner" are predictors of alliance performance in terms of profitability.

6.8.5 Relationship between Conflict and Alliance Performance

The conflict factor (factor 10) in the regression analysis related to personality and cultural misunderstandings. The beta coefficients in Table 6.35 indicated that personality and cultural misunderstandings were not significantly associated with alliance performance. Therefore, conflict does not effect the performance of the alliance. However, it must be understood that factor ten consisted of only two variables. The factor does not take in to account other measures reflecting conflict that have be found to be characteristic of UK international strategic alliances. For instance the t-tests indicated that less successful UK international strategic alliances are more likely to exhibit a greater degree of conflict and disagreements as a result of cultural misunderstandings and conflicting goals than successful alliances. Further, successful UK international strategic alliances are more likely to resolve any conflicts through joint problem solving. The MDA

also indicated that a higher degree of conflict equalled with poor communications and distrust are the most important attributes of less successful UK international strategic alliances, while the most important attribute of successful UK international alliances was the use of joint problem solving. While the findings have identified particular aspects of conflict to be characteristic of less successful alliances and both have identified joint problem solving as characteristic of successful UK international alliances, both the t-test and the MDA have pointed out that conflict is more typical of less successful UK international alliances.

The non-significance of this relationship found in the regression analysis may also be due, in part to the negative significant loading of factor ten, which suggested that personalities and cultural misunderstandings do not lead to conflict in the alliance relationship.

6.8.6 Relationship between Structure and Alliance Performance

Based on the results of the t-tests and MDA, strong relationships between organizational measures and alliance performance were not anticipated for the regression models.

6.8.6.1 Formalization

The relationship between formalization (factor 7) and alliance performance was significant in predicting alliance performance in terms of sales growth (see Table 6.35). It would appear that while formalized UK international strategic alliances are not generally associated with the performance of the alliance, they appear to have an affect on its sales growth. Factor seven consisted of two measures of

formalization. The variable "written documents set out detailed tasks and activities for both parties" was negatively correlated with the factor, while the variable "our partnership is based on an informal understanding" was positively associated. This suggests that UK international strategic alliances are less likely to follow their agreement in which the tasks and activities of the alliance are detailed in written documents and are more informal based relationship. While the t-test found no significant differences in the formalization of the two groups, the MDA indicated that a shared informal understanding between alliance partners was characteristic of successful UK international strategic alliances. However, it appears that while formalization may not be characteristic of successful UK international strategic alliances as indicated by the t-test, the regression analysis has shown that less formalized UK international strategic alliances may have an effect on the alliance performance in terms of its sales growth. Despite this finding, the overall results have shown that formalization is not an important factor for UK international strategic alliances.

6.8.6.2 Centralization

The relationship between centralized decision-making (factor 5) and alliance performance were found not to be predictors of alliance success. The results in Table see Table 6.35 indicated that factor five was not significant in predicting alliance performance. It would appear that centralized activities and relationships are not strong predictors of success in UK international strategic alliances. That is, mere contact through alliance managers and channelling information through a designated office does not ensure a high or low level of alliance performance. In

other words, centralized UK international alliances are not any more satisfied with their performance than decentralized alliances.

The t-test also showed no significant differences between the two groups in terms of the two measures that reflect factor five. However, the t-test partially supported the proposition that successful UK international strategic alliances are less centralized in their activities and relationships compared to less successful alliances by showing successful alliances frequently participate in joint decision-making. This variable "both parties participate in joint decision-making did not load on factor five and was thus not analysed in the regression model. This may account for the non-significant finding for factor five as a predictor of alliance performance. Thus, while the t-tests provide some support that successful UK international strategic alliances are more likely to engage in frequent joint decision-making, the regression analysis has indicated that this has no effect on the alliance performance.

6.8.6.3 Complexity

In terms of the organizational complexity of UK international strategic alliances the regression analysis found factor six to be positively associated with the performance of the alliance in terms of market share. This finding was surprising considering the t-tests found no significant differences between the two groups in terms of organizational arrangements. Furthermore, the MDA also discriminated between the two groups in terms of complexity and hierarchy and indicated that these two variables made a negative contribution. One explanation for the significant regression finding may be that the factor loadings for factor six were

relatively high (see section 5.2) and are thus considered significant. It may be that a composite score is likely to have a greater effect than a single variable. Another explanation is that the t-tests used a computed score for success, while the regression analysis considered each success measures in isolation. However, while no significant differences were found between successful and less successful UK international strategic alliances in terms of their organization, the regression findings have indicated that UK international strategic alliances that adopt a flexible and informal approach and are less hierarchical may have some influence over the performance of the alliance in terms of its market share.

6.8.7 Relationship between Control and alliance Performance

6.8.7.1 Focus of Control

The factor analysis identified two factors concerning the focus of control (see section 5.2). These are "control over functional activities" (factor 1) and "control over technological activities" (factor 2). The factor "control over functional activities" included distribution facilities, pricing policy, customer support, marketing and sales, manpower management and financial activities. The regression analysis showed a positive correlation of factor one with profitability. The t-test showed significant differences between the two groups in terms of pricing policy. The MDA also confirmed the importance of control over pricing policy for UK international strategic alliances. In these results, control over pricing policy appeared to be the most significant for UK partners for alliance performance. Apart from the significant associations indicated by the regression analysis, there were no differences found for these variables with either the t-test

or MDA. Again, the factor loadings for factor one were significant, which suggests that a high focus on these measures of control will result in high alliance performance. While the findings suggest that control over pricing policy is most important for successful UK international strategic, the regression analysis has shown, that control over functional activities by UK International strategic alliances that alliances are likely to impact the profitability of the alliance and thus the alliance performance.

In terms of factor two (*control over technological activities*), the regression analysis found no association to alliance performance. Factor two consisted of control over "R&D, product planning, production planning and quality control". The non-significant finding was not surprising for this factor for the following reasons. Firstly, quality control was not found to be significantly different between the two groups by the t-test. Also the MDA showed quality control to show very little discrimination between the two groups. Secondly, the variables R&D, product planning and production planning were not analyzed with the t-test and MDA because these tests do not account for missing values. Therefore, there was no evidence provided for the importance of these variables prior to the regression analysis. Thirdly, these variables were included in the factor analysis, because this test does take into account missing values by substituting them with a mean score. For this reason they were included in the factor analysis which provided significant loadings for this factor and was thus included in the regression analysis.

6.8.7.2 Mechanism of Control

The factor analysis produced two factors relating to the mechanism of control that UK international strategic alliances may use to exercise control (see section 5.4). These included informal control mechanisms (factor three) and formal control mechanisms (factor four). The results in Table 6.35 have shown that informal control mechanisms (*teamwork culture, planning process, appointment of personnel and formal/informal contact*) were negatively related to profitability. However the t-tests found three of these variables (*teamwork culture, planning process and formal/informal contact*) are more characteristic of successful UK international alliances compared to less successful alliances. Therefore, while the t-tests have indicated that positive control mechanisms are key success attributes in UK international strategic alliances, the regression analysis has suggested that positive control mechanisms do not impact the performance of the alliance and do not contribute substantially to the profitability of the alliance, but in fact, reduce profitability.

Factor four (negative control mechanisms) were found not to significantly predict alliance performance. Thus, there was no association between the use of negative control mechanisms by UK international strategic alliances and their success. The t-tests suggested that the use of power of veto was greater in less successful UK international alliances compared to successful alliances. In addition, the MDA also found that both power of veto and equity ownership were more important for less successful UK international alliances. Therefore, while both the t-test and the MDA has suggested that negative control mechanisms are more likely to be employed by less satisfied UK international alliances, the regression analysis

indicated that there is no association between the use of negative control mechanisms and alliance performance.

The purpose of the regression analysis was to examine the relationship between the behavioural and organizational characteristics and the alliance performance of UK international strategic alliances. The above findings have provided an understanding of the behavioural and organizational characteristics associated with the alliance performance of UK international strategic alliances. The results of the regression analysis have indicated that while the behavioural characteristics are significant in predicting the alliance performance of UK international strategic alliances, organizational characteristics have relatively little impact on performance. This suggests that behavioural characteristics play a more significant role in explaining overall alliance performance compared to organizational characteristics.

6.9 SUMMARY

This chapter has presented the results of the study and the interpretations derived from the analysis. First descriptive statistics regarding the sample of UK international strategic alliances was reported. These statistics revealed that the sample UK international strategic alliances exhibited a number of different characteristics. For instance, costs and risks of market entry, achieving access to overseas and improving market share were the most influential motives for UK firms in their decision to form an international alliance. Furthermore, the analysis

confirmed that the majority of responding firms were engaged in alliances with firms from the USA and the division of equity for most was 50/50. Finally, the majority of UK international strategic alliances were still in operation.

In rating the success of UK international strategic alliances the percentage of alliances expressing dissatisfaction with the performance and satisfaction of the alliance was lower, with the majority of alliances being satisfied.

An analysis of the behavioural and organizational characteristics was conducted on the overall results obtained, it is apparent that partnership attributes and communication strategies are more characteristic of successful UK international strategic alliances compared to less successful international alliances. These characteristics have also been shown to have a greater impact on the alliance performance of UK international alliances. Although, the results have demonstrated that certain organizational characteristics have been identified with both successful and less successful UK international alliances, overall they were found not to represent UK international alliances. Thus the importance of organizational characteristics such as structure and control, which have been largely ignored, should be examined in order to better understand these factors and their contribution to international alliance success.

Table 6.36 summarises the results of the propositions that were examined in the study.

Table 6.36 Summary of the Findings

Propositions	T-test	MDA	Multiple Regression	Outcome of Proposition
1. The level of coordination between partners will be higher for successful UK international strategic alliances compared with less successful international alliances	Confirmed	Supported	Supported	Supported
2. The level of interdependence between partners will be higher for successful UK international strategic alliances compared with less successful international alliances	Confirmed	Supported	Supported	Supported
3. The level of commitment between partners will be higher for successful UK international strategic alliances compared with less successful international alliances	Confirmed	Supported	Supported	Supported
4. The level of trust between partners will be higher for successful UK international strategic alliances compared with less successful international alliances	Confirmed	Supported	Supported	Supported
5. The quality of information between partners will be greater for successful UK international strategic alliances compared with less successful international alliances	Partially supported	Not tested	Supported	Partially supported
6. There will be a greater level of information sharing between partners for successful UK international strategic alliances compared with less successful international alliances	Confirmed	Partially supported	Supported	Supported
7. The level of participation in planning and goal setting between partners will be higher for successful UK international strategic alliances compared with less successful international alliances	Confirmed	Supported	Weak support	Supported

Table 6.36 (continued): Summary of the Findings

Propositions	T-test	MDA	Multiple Regression	Outcome of Proposition
8. There will be less conflict between partners for successful UK international strategic alliances compared with less successful international alliances	Partially supported	Supported	Not supported	Partially supported
9. Successful UK international strategic alliances will be less formalized in their approach to managing activities and relationships compared to less successful international alliances	Rejected	Some support	Some support	Weak support
10. Successful UK international strategic alliances will be less centralized in their activities and relationships compared to less successful international alliances	Weak support found	Not supported	Not supported	Very weak support
11. Successful UK international strategic alliances will have simpler levels of organizational arrangements compared to less successful international alliances	Rejected	Some support	Some support	Weak support
12. UK international strategic alliance partners that seek to focus their influence over particular alliance activities, rather than control all activities will be more successful	Very weak support found	Some support	Partially supported	Weak support
13. UK international strategic alliance partners that use positive control mechanisms as opposed to negative control mechanisms to monitor alliance activities are more successful	Partially supported	Some support	Not supported	Weak support
14. Successful UK international strategic alliances are those in which the management of the alliance is shared compared to less successful alliances	Rejected	Not supported	Not tested	Rejected

CHAPTER SEVEN

SUMMARY AND FUTURE RESEARCH

The purpose of this chapter is to summarise the research findings and discuss the contributions and implications of these findings. Furthermore, the limitations of the study are addressed and areas for future study are outlined.

7.1 RESEARCH PROBLEM

The aim of this study was to determine the behavioural and organizational characteristics of successful UK international strategic alliances. Specifically, building from the stream of research which has provided important insights into the study of interorganizational relationships (Geringer and Herbert 1989; Parkhe 1993; Mohr and Spekman 1994; Aulakh et al 1996; Saxton 1997) the study addressed the following objectives:

- (i) To provide an empirical analysis of UK international strategic alliance activity with partner firms from Western Europe, the USA and Japan
- (ii) To determine the successful characteristics of strategic alliances between UK firms and their international partners
- (iii) To assess the influence of behavioural and organizational characteristics on the success of UK international strategic alliances.

7.2 RESEARCH DESIGN

Two methodological approaches were used in this study. The first stage of the research involved the construction of a comprehensive database of UK international strategic alliances, using secondary sources. The creation of a database allowed data to be presented on several dimensions of UK international alliance activity. These patterns of activity are outlined in chapter three. The development of the database facilitated the next stage of the research which involved the development of a questionnaire that was mailed to 450 participants who agreed to take part in the study. UK firms engaged in international strategic alliances with firms from USA, Japan and Western Europe (Germany, France and Italy) formed the focus of this study. One hundred and fourteen completed questionnaires were received.

In evaluating and interpreting the results of the propositions to be tested it became necessary to clarify certain aspects of the research. Consequently, the following

analyses were undertaken. UK international strategic alliances were divided into successful and less successful groups. T-tests were used to measure differences between successful and less successful UK international strategic alliances in terms of the behavioural and organizational characteristics. In addition, multiple discriminant analysis was undertaken to identify the behavioural and organizational characteristics which discriminate most between successful and less successful alliances. Finally, multiple regression analysis was used to assess the influence of behavioural and organizational characteristics on the success of UK international strategic alliances. The regression analysis also provided a means of determining which of the behavioural and organizational characteristics were the strongest predictors of success.

7.3 FINDINGS

Several important empirical findings came out of this study. The presentation of the summary results will be centered around the major issues examined in this study, namely the results of the database for UK international strategic alliances and the research propositions that were examined.

7.3.1 Database of UK International Strategic Alliances

The database constructed (see chapter three) provided a profile of UK international strategic alliances for the period 1988 to 1995. The results identified

several characteristics of UK international alliance activity that can be summarized as follows:

- (i) While there has been an increase in the number of strategic alliances being formed between UK and international firms during the period 1988 to 1995 the overall level of activity appears to have peaked.
- (ii) Although the majority of strategic alliances have been formed with firms from Western Europe during the period 1988 to 1995, the number of international partnerships being formed with US firms is increasing.
- (iii) There is a greater emphasis on equity type international strategic alliances compared to non-equity.
- (iv) The largest number of UK international strategic alliances were more concentrated in the financial services sector. Increased activity was, however, observed in the pharmaceutical sector, food and drink, property and construction and transport. Overall decreased activity was found in both the aerospace and automotive industries.
- (v) The majority of UK international strategic alliances were formed for marketing-related reasons, a change on previous research findings which identified more alliances being formed for manufacturing and R&D purposes.

7.3.2 Empirical Findings of the Survey

The empirical findings of the study have attempted to ascertain the characteristics of successful UK international strategic alliances as well as determine the impact

of these characteristics on the success of UK international strategic alliances. The study has demonstrated that behavioural characteristics are more typical of successful UK international strategic alliances than organizational characteristics. Furthermore, findings have also determined that behavioural characteristics are more likely to be associated with the success of UK international strategic alliances than organizational characteristics.

7.3.2.1 Partnership Attributes

- **Coordination**

The proposition that the level of coordination between partners will be higher for successful UK international strategic alliances, compared with less successful international strategic alliances was also strongly supported. The results showed significant differences between successful and less successful UK international strategic alliances in terms of the level of coordination and suggested that partners satisfied with alliance performance were more likely to interact with each other in order to achieve their goals and objectives. It was also advocated that the most important characteristics of successfully coordinated alliances are the exchanging of ideas between partners and strategic fit. Furthermore, the research has shown that partners in UK international strategic alliances that are well integrated with each other are more likely to have an impact on the performance of the alliance. The results are consistent with the findings of Mohr and Spekman (1994) and Monckza et al (1998) of a positive relationship between coordination and success but extend their findings to suggest successful UK international strategic alliances differ from less successful alliances in terms of a number of coordinated activities.

- **Interdependence**

Mixed empirical support was provided for the proposition that the level of interdependence between partners will be higher for successful UK international strategic alliances, compared with less successful international strategic alliances. The findings of this study have suggested that partners engaged in successful UK international alliances are more likely to be equally dependent on each other while less successful alliances are more likely to switch to a new alliance partner. Also in successful international alliances, UK firm's are more dependent on their international partners for technological expertise, management skills and manufacturing capabilities. There was also some evidence to suggest that the technological expertise and manufacturing capabilities of international partners were the most important resources for UK firms. However, the regression analysis only found UK dependency on their partners management skills to be related to the performance of the alliance and no other association between interdependency and alliance performance of UK international alliances was revealed.

- **Commitment**

The proposition that the level of commitment will be higher for successful UK international strategic alliances compared with less successful international strategic alliances was strongly supported. Significant differences between successful and less successful UK international strategic alliances were found in terms of commitment. Here, commitment reflected the identification and acceptance of the goals and values of the partnership, the willingness to exert effort on behalf of the organization and a desire to maintain organizational

membership. Partners in successful UK international alliances were more likely to identify with each others goals and objectives and engage in achieving those goals and objectives through willingly supporting the relationship. The findings also indicated that a higher level of commitment was related to higher alliance performance of UK international strategic alliances. Previous research has suggested a relationship between commitment and alliance success (Mohr and Spekman 1994; Olson and Singsuwan 1997; Monckza et al 1998). However, the findings of this study extend the role of commitment in UK international strategic alliances in a number of important ways. Firstly, a number of commitment dimensions have been examined in this study not previously investigated. Secondly, significant differences have been shown between successful and less successful UK international alliances and most important attributes of commitment for successful alliances have been identified.

- **Trust**

Strong support was found for the proposition that the level of trust between partners will be higher for successful UK international strategic alliances, compared with less successful international strategic alliances. The degree of trust was found to differ significantly between the two groups. Trust was more characteristic of successful alliances with relying on each other when it counts being the most significant aspect of trust in successful relationships. The most significant aspects of trust have also been identified as being characteristic of successful UK international alliances. In addition the findings also provide support to previous findings that a trusting relationship in partnerships is

important in explaining alliance performance (Mohr and Spekman 1994; Monckza et al 1998).

7.3.2.2 Communication Attributes

- **Quality of information**

The proposition that the quality of information between partners will be greater for successful UK international strategic alliances compared with less successful international strategic alliances was supported for three aspects of information quality which have been identified as being essential for effective communication between partners. Differences between successful and less successful UK international strategic alliances were found in terms of adequacy, completeness and credibility of information transmitted. Differences between the two groups were not found for the timeliness and accuracy of information transmitted. Thus the quality of information was a key aspect of successful UK international strategic alliances. Furthermore, quality of information transmitted between partners was found to be associated with the performance of the alliance (Mohr and Spekman 1994; Monckza et al 1998).

- **Information Sharing**

There was strong support for the proposition that there will be a greater level of information sharing between partners for successful UK international strategic alliances compared to less successful international strategic alliances. Significant differences between the two groups revealed that successful UK international strategic alliances were more likely to share proprietary information and keep each other informed about changes and events that may affect the other. The

expectation of both partners to keep each other informed about events and changes that may affect the other was distinguished as being the most important aspect of information sharing for successful UK international strategic alliances. Sharing proprietary information and consulting each other of changes and events was also found to be related to the performance of the alliance (Mohr and Spekman 1994).

- **Participation**

The proposition that the level of participation in planning and goal setting between partners will be higher for successful UK international strategic alliances compared with less successful international strategic alliances was supported. Differences between the two groups showed that partners in successful UK international strategic alliances engage jointly in planning and goal setting through regular meetings and joint decision-making. Seeking each others advice concerning decision-making in planning and goal setting was the most important aspect of participation for successful UK international strategic alliances. This was consistent with Dwyer and Oh (1988) who proposed that input to decisions and goal formulation are important aspects of participation that help partners to succeed. The results also suggested that close personal ties between partner's and participation may impact the success of the alliance (Mohr and Spekman 1994).

7.3.2.3 Conflict

The proposition that there will be less conflict between partners in successful UK international strategic alliances compared with less successful international strategic alliances was supported. The presence of a high degree of conflict and

disagreements, as a result of conflicting goals and cultural misunderstandings was found to be characteristic of less successful UK international strategic alliances (Killing 1983; Lewiss 1990). Conflict was not related to the performance of the alliance. This suggests that conflict does not hinder international strategic alliance performance. This finding is contrary to Ding (1997) who indicated that conflict between partner firms significantly hindered the joint venture performance. However, Ding (1997) did not identify in his study, whether conflicts were characteristic of successful or less successful joint ventures.

7.3.2.4 Structure

- **Formalization**

The proposition that successful UK international strategic alliances will be less formalized in their activities and relationships compared to less successful international strategic alliances was very weakly supported. Successful and less successful UK international strategic alliances did not differ significantly on any of the measures of formalization. However, the regression analysis did find a relationship between formalization and alliance performance. This finding indicated that UK international alliances that have a shared informal understanding are more likely to be successful. Too much formalization results in low levels of participation (Dwyer and Oh 1988) and increased opportunism (John 1984) which can erode trust, subsequently affecting the performance of the alliance (Buckley and Casson 1988; Mohr and Spekman 1994).

- **Centralization**

The proposition that successful UK international strategic alliances will be less centralized in their approach to managing activities and relationships compared to

less successful international strategic alliances was weakly supported. Partners in successful UK international alliances are more likely to participate in joint decision-making. However, the degree of centralization was not associated with the performance of the alliance. While past research has examined the impact of the degree of centralization on the success of international alliances, it has been shown that too much centralization results in a lack of participation in decision-making and opportunistic behaviour (John 1984; Provan and Skinner 1989).

- **Complexity**

The proposition that successful UK international strategic alliances will have simpler levels of organization arrangements compared to less successful international strategic alliances was also only very weakly supported. While no significant differences were found between the two groups in terms of its organization arrangements, the regression findings suggested UK international alliances that adopt a flexible and informal approach to organizing their alliance may impact the success of the alliance.

7.3.2.5 Control

- **Focus of Control**

The proposition that UK international strategic alliance partners that seek to focus their influence over particular alliance activities rather than control all activities will be more successful was weakly supported. Successful and less successful international alliances differed significantly on one (*pricing policy*) out of the seven measures of the focus of control. Another measure (*marketing and sales*),

although not statistically significant was also found to be characteristic of successful international alliances. The results also indicated that UK partners that seek to focus their control over functional activities such as distribution facilities, pricing policy, customer services, marketing and sales, manpower management and financial activities were likely to enhance the performance of their alliance. These results suggest that while the activities which partners appear to focus their control over are not significantly different in either successful or less successful international alliances, UK partners of successful international alliances who have control over functional alliance activities are likely to perform better. Strategic alliances that seek to control activities that are crucial for the achievement of their objectives are more successful (Schaan 1983).

- **Mechanism of Control**

There is partial support for the proposition that UK international strategic alliance partners that use positive control mechanisms as opposed to negative control mechanisms to monitor alliance activities will be more successful. Negative control mechanisms are more characteristic of less successful UK international alliances, while positive control mechanisms are employed by successful international alliances. However, there was no association between control mechanisms used and the performance of the international alliance. While previous research has suggested that both negative and positive mechanisms can be used for the effective management of alliances (Tomlinson 1970; Schaan 1983) the findings of this study indicate otherwise.

- **Extent of Control**

The proposition that successful UK international strategic alliances are those in which the management of the alliance is shared compared to less successful international strategic alliances was rejected. The results indicated that UK partners in successful international strategic alliances preferred overall dominant control in their partnerships. The relationship between the extent of control and performance was not examined, since this measure was not selected by the factor analysis.

7.4 IMPLICATIONS FOR MANAGERS

The research findings of this study have suggested several ways in which managers of UK firms engaged in international strategic alliances can actively manage their working partnerships. While international strategic alliances have been plagued by high failure rates, it has been generally recognized that building the right type of inter-firm relationship can help improve the chances of success. Much of the current disenchantment with international strategic alliances has been attributed to inadequate control processes, along with a failure to consider the role of interpersonal relations. This study has stressed the importance of a number of behavioural and organizational characteristics of international strategic alliances and has indicated that behavioural aspects of alliance relationships are more characteristic of successful UK international strategic alliances and thus have a greater impact upon the performance of the alliance as well as satisfaction with the relationship. This means that it is imperative for managers of UK firms engaged

in international alliances to focus their attentions on the interpersonal relationships between partner firms if they want to be successful.

The most important action to be taken by managers in building a successful international alliance is to foster and nurture the alliance relationship. This can be done through the development of a greater level of coordination, interdependence, trust and commitment, communication and avoidance of frequent conflicts.

It is important that managers in both parties identify and agree on how to coordinate and adapt the activities that are particularly critical to the alliance. This requires both parties to have similar or complimentary goals and objectives which can be brought into operation by managers from both parties, by becoming closely involved in the activities of the alliance. Thus partners should be in complete agreement about the purpose of the alliance and the process by which its goals can be achieved. Clarity of focus is vital. Having ambiguous fuzzy goals and uncoordinated activities are the primary causes of failure of strategic alliances. The encouragement of greater harmony and cooperation will enable partners to achieve the goals and objectives of the alliance. This will require the different functional groups of both parties to work together toward achieving those goals and objectives. This will encourage a higher level of interaction between managers as well as heighten a regular exchange of ideas between partners.

Managers can also help to enhance greater coordination between firms by recognizing the benefits of mutual interdependence. The study has indicated that while successful UK international strategic alliances appear to be equally

dependent, dependency is related to the importance of resources that are critical for the firm's operation. Thus interdependence is fundamental to international strategic alliances and structuring it appropriately would appear to have important outcomes. For this reason managers need to be aware of the role of interdependence in international strategic alliances. This means that managers must realize that each firm needs the other to provide information and resources to complete their work. Thus, research, production, finance and marketing departments in each firm need to share their expertise and knowledge for the effective management of the alliance. This can also encourage the individuals and groups from each firm to interact with each other and thus coordinate their activities.

In addition to helping guide mutually dependent partners to coordinate their alliance activities, managers can also assist in the development of mutual trust and commitment to the relationship. The results of this study have suggested that building trust and commitment is essential for the long-term success of UK international strategic alliances. This is an issue which managers in UK international strategic alliances should address. While the contractual terms of the relationship are important, the development of trust between partners should play a more significant role in the management of the alliance. To enhance alliance performance and satisfaction, managers must demonstrate and reciprocate trusting behaviours by investing time and effort into partnership relationships. Several behaviours and actions associated with trust have been identified by UK partners to have a positive effect on alliance performance. For instance, the relationships that enjoy a high degree of harmony, loyalty and sincerity, have close personal ties

with each other through commitments made, willing to offer each other support by sharing work related problems and not taking each other for advantage by being opportunistic represent some of the actions and behaviours which could support the development of trust. When there is trust between partners, both parties have the confidence that the other will be inclined to help with and share work related problems.

Managers can facilitate the development of trust by institutionalizing commitment to the alliance relationship. This requires that both parties are in complete agreement about the purpose of the alliance and the process by which the goals can be achieved. Thus managers have to clearly define a number of important things for this to be effective. The goals and objectives of the alliance should be clearly defined, the operational responsibilities of each party, authority over key decisions as well as the way in which activities are to be performed also need to be defined. Details regarding resource commitments, daily operation, resolution of conflicts should be clearly stated. All these factors can be stated and formalized in an alliance agreement to which both parties must agree. However, this can only be effective to the extent that both parties share a strong mutual obligation to the alliance and understand each other and the extent to which they are willing and able to adopt each others commitments. Thus, efforts can be concentrated on listening to each others problems, satisfying each others needs, compromising with each other to reach mutual objectives.

Communication behaviour also played a significant role in determining UK international alliance success. Both the depth and breadth of information

conveyed within the alliance relationship proved to be important in managing the relationship. Managers must be able to understand how certain facets of communication such as the quality of information exchanged can be used to enhance the transmission of effective information. For instance sharing information with your partner in a timely manner, providing accurate and adequate information should enable managers to interact and share ideas and information more effectively. Thus the need to exchange information on a regular basis is important for both parties and could encourage partners to keep each other informed about events and changes that may affect the other. This may lead to improved managerial decision-making when planning activities and goal setting. However, participation in planning and goal setting should be rigorous and detailed enough to be effective. This again can be achieved by managers through openly communicating their commitment to the alliance goals and objectives and also their participation in shared decision-making on a regular basis. Therefore, for effective alliance management communication must be frequent, on time, open and shared.

While this study has indicated that conflicts are characteristic of less successful international strategic alliances, it has been readily acknowledged that disagreements are inevitable in every alliance relationship. Each firm has its own agenda and goals for the alliance which can result in conflicting goals. Further, differences between cultures of partners can lead to cultural misunderstandings. It is suggested that partners work jointly together to develop mediating mechanisms to defuse and settle their differences. Firms can train their personnel to be sensitive to each others problems and deal with these problems through using joint

problem solving techniques. In this way problems may be discussed to develop mutually acceptable solutions. Helping to blend in the different cultures of the partners will help to phase in the relationship between the partners. Thus it is suggested that the complexity of managing such differences should be highlighted.

The way in which the alliance is structured and the control processes used to monitor alliance activities were generally not found to be distinctive of either successful or less successful UK international strategic alliances and were thus considered to be of less importance in the development of successful international strategic alliances. There was very little evidence to suggest that the way in which the alliance is structured and controlled are crucial for the success of the alliance. However, the results do indicate that frequent participation in decision-making and shared informal understanding associated with some flexibility can have some impact on the success of the alliance. What is recommended is that managers should help to design structures that fit the needs of the alliance. While an international strategic alliance secured by an administrative hierarchy with a formalized systems of rules and procedures may erode the effectiveness of an alliance, too little formalization and centralization may result in each party behaving opportunistically. What is required is a balanced consideration. It is suggested that the alliance is managed through a system where authority is shared and decision-making is collaborative.

International managers also need to recognize that the issue of control may impact the success of international strategic alliances. If both parties to an alliance strive for majority control, this may jeopardize their relationship and inhibit the success

of their partnership. The results of this study have implied that the preferable option for control is to pursue dominant managerial control over decisions or activities that are critical to the success of the international strategic alliance. Partners in international alliances need to arrive at a mutually acceptable solution. A balance may need to be struck between the need for control and the need to maintain a harmonious relationship. Furthermore, control should be monitored through social interactions for maintaining partnerships such as regular reporting on performance, involvement in the planning process and informal and formal contacts between managers. For instance regular reporting on the performance and progress of the alliance as a mechanism to monitor the alliance activities should be made available to management

Finally, the identification by respondents of utilizing several measures to evaluate the performance and satisfaction of alliances demonstrates that UK partners engaged in international strategic alliances follow a multiple rather than a single strategy to measure success. Therefore, in addressing the measurement of success in UK international alliances managers need to determine the success of alliances on multiple measures of success.

Thus the key principles to effective management of UK international strategic alliances have been clearly defined above. The study has suggested that the ability to coordinate activities, develop a sense of trust and commitment to the relationship, mutual interdependence, communication behaviour and joint problem solving are critical to the relationship and can help to promote the effective management of international alliances. Thus all these factors can

contribute to the success of the international alliance. The challenge lies in UK firms developing international alliances in which the control and structure of the alliance can house these relationships. The major contribution of the research for managers of UK international strategic alliances is that they now have an empirically derived framework to guide them in their decision regarding the effective management of alliances.

7.5 CONTRIBUTIONS OF THE STUDY

This study has contributed to the existing literature in a number of ways. The contributions pertain principally to our understanding of the relationship between behavioural and organizational characteristics and international strategic alliance success. Other contributions are related to the distinctive importance of the different dimensions developed for each construct of the study to the development of an integrative framework.

This study offers empirical data on the impact of behavioural and organizational factors on the success of UK international strategic alliances. Firstly, the study has suggested that behavioural factors are more characteristic of successful UK international strategic alliances and have a greater impact on the success of these partnerships. Secondly, the study found few differences in the structure and control of successful and less successful UK international strategic alliances. The data also revealed that structural and control characteristics had very limited impact on the performance and satisfaction of the international alliance.

Therefore, the most significant contribution of the study is that it represents the first systematic study that has revealed that behavioural characteristics are most important in distinguishing between successful and less successful UK international strategic alliances and have a major impact on the alliance performance and satisfaction.

The empirical data of this study is distinguished from previous research in a number of respects. First, the study has tried to determine both behavioural and organizational characteristics of UK international strategic alliances and their impact on success. Previous research has examined either the behavioural characteristics or organizational characteristics (Geringer and Herbert 1989; Mohr and Spekman 1994; Monckza et al 1998). There have been no studies that have investigated both aspects. While complementing previous research, this study provides new and greater evidence regarding behavioural characteristics and alliance success. The findings of this study have shown (i) there are significant differences between successful and less successful UK international strategic alliances in terms of the behavioural characteristics, (ii) the most important discriminating behavioural characteristics of successful UK international strategic alliances and (iii) that behavioural characteristics have an impact on the performance and satisfaction of UK international strategic alliances. Past researchers have focused only on the association between behavioural aspects of the alliance relationship and its success (Mohr and Spekman 1994; Monckza et al 1998). Furthermore, these studies did not find all behavioural attributes of supplier alliances to be significantly related to partnership success.

The results have also provided a few differences in the organizational characteristics of successful and less successful UK international strategic alliances. While these differences were few no previous research has attempted to address this issue. While the findings of this study found relatively little impact on the performance and satisfaction of the international alliances, the study did reveal some aspects of structure and control characteristic of successful UK international strategic alliances. Previous studies investigating control in international strategic alliances have tended to focus on ownership-control relationships mainly in less developed countries (Geringer and Herbert 1989). While the structural characteristic of interorganizational agreements have been emphasized, there has been no research which has investigated its impact on alliance success.

The literature on interorganizational relationships that have addressed the behavioural characteristics of successful partnerships have failed to measure success in terms of both performance and satisfaction. Where researchers have used performance measures such as market share and profitability, they have evidenced only minimal association between behavioural factors and success. Furthermore, this study adopted an integrative research perspective that included multiple determinants of alliance performance and satisfaction.

An important methodological contribution of this study is that highly reliable and valid measures for each of the behavioural constructs have been provided. Better measures have also been provided for the control dimensions. Previous research on supply chain alliances (Mohr and Spekman 1994; Monckza et 1998) have not

conceptualized the behavioural dimensions to the same extent as this study. For instance previous conceptualization of commitment and its operationalization through a three or four-item scale does not capture the many facets of this concept. In this study commitment was operationalized using 28 items and have thus incorporated the many different dimensions of commitment. This type of operationalization has been accomplished for each of the behavioural dimensions used in this study. It is suggested that future research should also systematically examine the behavioural-success relationship by incorporating different dimensions of these constructs.

This study also offers data not only on international strategic alliances, but also in the context of UK international firms representing a wide range of industries. Past research has tended to examine interorganizational relationships concentrating mainly on the US domestic market usually within the context of one single industry. To generalize these findings to international strategic alliances would be a misconception. International strategic alliances are more complex in that they have to deal with different cultures and styles of management. This means that data collected from international strategic alliances are more generalized.

The present study has provided a more comprehensive analysis by acquiring multiple perspectives from several types of alliances, including both equity and non equity agreements. Previous research has considered only supplier-dealer type relationships (Mohr and Spekman 1994; Monckza et al 1998). Again the findings of this study can be generalized to international strategic alliances

because they are more complex than supplier-dealer type relationships and experience a greater level of behavioural and organizational characteristics.

The results of the study also enriches the theoretical perspectives of international strategic alliances. The findings highlight significant differences between successful and less successful international strategic alliances in terms of the behavioural aspects of alliance relationships. The research implications here call for the existing theoretical perspectives to incorporate these findings in order to explain the success of international strategic alliances. This study provides an important extension to current theoretical perspectives on behavioural and organizational factors. The framework of this study has provided researchers with new insights in to the way coordination, interdependence, commitment, trust, conflict and communication processes develop in international strategic alliances as well as important insights on how international alliances are structured and controlled. In addition, the use of multiple measures of success to measure the performance and satisfaction has provided incomparable evidence in evaluating the success of alliances. Overall, there was little difference found between the measures in terms of the success of UK international alliances. Thus these findings complement existing research and provide a greater contribution to the understanding of the phenomenon of success in international strategic alliances.

7.6 LIMITATIONS AND DIRECTIONS FOR FUTURE RESEARCH

While this study has determined the behavioural characteristics of successful UK international strategic alliances and complemented the research based on organizational characteristics, the findings of this study should be evaluated in the light of the limitations of the study. Recognition of the limitations of this study are important because they will help to qualify the findings of the study and also identify the directions for future research. Therefore, the results of this study should be viewed in light of the following limitations.

- **Use of Secondary Data**

The secondary data collected for the establishment of the database and for the use in the subsequent part of the research study may not be representative of all UK strategic alliances formed in Western Europe, USA and Japan as they were recorded from the Financial Times and other newspapers on CD-ROM. While this method of collecting data on the number and formation of UK international strategic alliances has been used by previous researchers (Glaister and Buckley 1994) it may be that this method does not represent the activity of all UK international strategic alliances since not all alliances are reported. Furthermore, UK international strategic alliances represent only a small sub-set of possible alliances formed. Therefore, a replication of the study in other national settings would enhance the generalizability of the findings of this study.

- **Use of Primary Data**

The collection of primary data through the administration of a postal questionnaire represents a methodological limitation. Data in this study were obtained from one senior manager for each international alliance. This design may be inherently ineffective in controlling for potential biases associated with the information provided by the UK respondents, since the information provided is based only the perceptions of one informant engaged in the alliance. However, since senior managers are likely to be knowledgeable about all stages of the development of the alliance the respondent is likely to provide reliable information. Despite this, it would be useful for future researchers to obtain information from a broader sample of senior managers from each alliance and perhaps even non-managers. This would minimize any potential bias in the information provided resulting from the level of the informant.

- **Focus on UK Firm Perceptions**

This study is based on the perceptions of the UK partners engaged in international strategic alliances. Thus the results of the study are based on information obtained from one side of the partnership dyad. While it may be beneficial to elicit the perceptions of foreign partners to better understand the phenomena of international strategic alliances, it was not feasible in this study because of a number of constraints. First, to obtain information from the international partner would have been difficult since many of the UK partners were unwilling to identify their partners for confidential and strategic reasons. Since the variables in the study are based on cooperative features involving both partners, the collection of data from one partner does not capture these cooperative aspects and findings

should be interpreted keeping this limitation in mind. Thus further research is encouraged to utilize dyadic responses from both partners in order to better understand the characteristics of such relationships from the perspectives of both firms.

- **Focus on Multiple Industries and Alliance Types**

The findings of this study should be viewed in the light of the research methodology employed and the nature of the strategic alliance investigated. The study's focus on a multiple of industries and different types of international strategic alliances may have posed some problems. In this study only three measures of performance (market share, profitability and sales growth) criteria were indicated to be used by all the respondents of this study. Other measures of performance such as cost control, technology development, product design were not criteria used by all respondent firms. One explanation is the widely diversified use of international strategic alliances in various industries used in this study. Thus there was no homogeneity within the sample used. Although such heterogeneity of industry and type of alliance may be desirable for the analysis of intra-firm differences, this was not possible in this study because a sufficient number of sample firms were needed for the analysis. Eliminating alliances on the bases of industry and type of agreement would have resulted in a smaller sample. In future, research may be conducted on one type of international strategic alliance within a single industry and thus determine the success of the partnerships on multiple perspectives of alliance performance. Also, in order to identify industry specific effects, replications with single industries would be desirable.

- **Conceptualization of Structure**

This study examined the impact of structural relationships on the success of international alliances. The conceptualization of the structural dimension and its operationalization through three multi-item scales did not capture the many facets of this concept. The measures used to examine this dimension were taken from the strategic alliance literature in which only a very small contribution has been made. The reason for this was because very little or no empirical research has been done on the structural characteristics of international strategic alliances and thus very little contribution to theory has been made. Because of a need to develop a more complete theoretical explanation for structural characteristics of international strategic alliances and their outcomes more empirical inquiry is needed. As part of theory development the case study approach (Yin 1989) is recommended.

- **Issue of control**

The inconclusive results concerning control may be attributed to the fact that only limited aspects of control were surveyed in UK international strategic alliances. This study has assessed only the degree of each partners control over ten functional activities. Future research should consider influence over a wider range of decision-making areas as well as the assessment of the importance of each decision. The study also provides some support to suggest that positive control mechanisms are more characteristic of successful international alliances. Thus future research should concentrate more on the importance of positive mechanisms of control and their impact on the success of alliances.

- **Future Scope for Behavioural and Organizational characteristics**

While this study has addressed the impact of both behavioural and organizational factors on the success of UK international strategic alliances and provided substantial findings that lend credence to theoretical arguments, a further need for understanding behavioural and organizational characteristics in international strategic alliances is stressed. Despite the importance of these findings, knowledge concerning these issues is at an early stage. Future research may need to improve on the definitions of concepts and their operationalizations. While the concepts used in this study are highly reliable and show validity, it is not possible to capture all the complexities of say commitment and trust when measuring these variables. Different researchers have used different measures to describe the same dimension. For example researchers such as Mohr and Spekman (1994), and Monckza et al (1998), while they have provided fruitful insights in to the factors affecting partnership success they have failed to adequately characterize their dimensions in a number of different ways. Therefore, it would be useful for future research to explore the many complexities of each of the behavioural and organizational dimensions used in this study.

- **A Case study Orientation**

Because of the nature of the research question this study employed large sample hypothesis-testing to establish the relationships between behavioural and organizational characteristics and international strategic alliance success. Focusing on a large number of cases made it possible to construct a picture of behavioural and organizational characteristics associated with successful UK international alliances that are specific to any case or any group of cases.

However, it would be interesting for future research to use the case study approach in order to investigate why certain behavioural characteristics are associated with successful alliances. In other words, if successful international strategic alliances have behavioural characteristics not held by less successful alliances, and vice versa, case analysis may reveal why one set of factors leads to increased alliance performance and satisfaction and another set leads to less alliance performance and satisfaction.

- **Success Measures**

In measuring the success of UK international strategic alliances, this study used data that are perceptual and subjective. Though it is encouraging to note that perceived alliance performance and satisfaction are adequate, and previous literature has supported this view (Geringer and Herbert 1991), it would be interesting to see if future research could incorporate a few objective measures of performance in order to investigate the efficiency of alliance outcomes. It may be that in this study the performance and satisfaction measures used capture only part of the multidimensional aspect of alliance performance. Future studies should examine whether the same results can be obtained by using more objective measures of performance. It was not possible to include objective measures of performance such as profitability or sales data in this study since respondents were reluctant to provide such data.

Regarding future research, it can be stated that the results from the present study are very encouraging. The possibility of obtaining reliable and valid data on behavioural and organizational aspects of international strategic alliances as well

as data on their performance, suggests that there is potential for future researchers to obtain further and additional information on these aspects of alliance partnerships. For instance, it would be interesting to consider the various interactions between behavioural and organizational variables and their impact on alliance performance. Both practitioners and researchers could benefit from work in this area. Thus the knowledge of alliance performance would be greatly enhanced by the study of multiple paradigms.

APPENDIX 1

Mr. Ronald Davidson
A.H.T. International plc
Ambury Road
Hertfordshire
HP7 9NA

Dear Mr. Davidson

Following a recent telephone conversation with your secretary I was given your name as a contact for assistance in my research project. I am a doctoral researcher at the Warwick Business School (University of Warwick). I am conducting research into the effectiveness of UK international strategic alliances.

The objectives of the research are to develop a clear understanding of the behavioural and organizational characteristics of successful and less successful UK international strategic alliances. The research aims to present new data based on a questionnaire survey of UK partners of strategic alliances in developed countries. The study aims to determine the behavioural and organizational factors which are most associated with success within strategic alliances. The research results will be of considerable interest to practitioners and will provide managers with a greater appreciation and understanding of alliance management and help them to develop more successful partnerships.

I would be grateful therefore if you would agree to participate in this study by taking time to complete the enclosed questionnaire. The questionnaire concerns the alliance between A.H.T. International and the Nesbitt Group in the USA. I realize that your time is precious, but the success of Ph.D. and this important research project depends upon a sufficient response from as many companies as possible.

All information provided will be treated in the strictest confidence and the results will only be presented in aggregate form thus ensuring that complete anonymity is maintained. A copy of the research will be disseminated to all respondents. Could you please attempt to complete the questionnaire even if the alliance has been terminated. If you have any questions concerning the study, please feel free to contact myself or my supervisor DR Vivienne Shaw.

Thank you in anticipation

Yours Sincerely

Saleema Kauser
Doctoral Researcher
Marketing and Strategic Management Group

APPENDIX 2



**SUCCESSFUL CHARACTERISTICS OF UK
INTERNATIONAL STRATEGIC ALLIANCES**

(Research Questionnaire)

SECTION 1. BACKGROUD INFORMATION

1. Name of Alliance Partner
2. Date of Alliance Partner
3. Please indicate Industry served
4. *Please indicate the type of alliance you have with the above organization:
(Please tick only one box)*
 - 4.1 Majority Equity Investment
 - 4.2 Minority Equity Investment
 - 4.3 50:50 Joint Venture
 - 4.4 Contractual Agreement
 - 4.5 Consortium
5. *Please indicate the function of the alliance: (Please tick only one box)*
 - 5.1 Joint Marketing Agreement
 - 5.2 Joint Manufacturing
 - 5.3 Joint Product Development
 - 5.4 Joint R & D Agreement
 - 5.5 Shared Distribution Services
 - 5.6 Other (pleas specify)

6. *To what extent were the following factors influential in your decision to form an alliance? (1 = Not at all important; 5 = Very important)*
- | | | |
|------|--|--------|
| 6.1 | Potential for economies of scale | 1 to 5 |
| 6.2 | Potential for economies of scope | 1 to 5 |
| 6.3 | Technological competition | 1 to 5 |
| 6.4 | Shortening product life cycle | 1 to 5 |
| 6.5 | Increasing international competition | 1 to 5 |
| 6.6 | Spreading costs and risks of New Product Development | 1 to 5 |
| 6.7 | Spreading costs and risks of market entry | 1 to 5 |
| 6.8 | High costs of distribution networks | 1 to 5 |
| 6.9 | High costs of R&D | 1 to 5 |
| 6.10 | High costs of operating in the market | 1 to 5 |
| 6.11 | Access to overseas market | 1 to 5 |
| 6.12 | Need to improve market share | 1 to 5 |
| 6.13 | Marketing skills of partner | 1 to 5 |
| 6.14 | Managerial skills of partner | 1 to 5 |
| 6.15 | R & D capability of partner | 1 to 5 |
| 6.16 | Distribution channels of partner | 1 to 5 |

SECTION 2. BEHAVIOURAL CHARACTERISTICS

7. *How well do the following describe the coordination between your firm and your partner firm? (1 = Not at all; 5 = Very well)*
- | | | |
|-----|---|--------|
| 7.1 | We work as a team with our partner | 1 to 5 |
| 7.2 | There is a regular exchange of ideas between our firm and the partner firm | 1 to 5 |
| 7.3 | We develop strategies and expect our partner to fit in with them | 1 to 5 |
| 7.4 | Our partner's activities are an extension of our firm's activities | 1 to 5 |
| 7.5 | There is a high level of interaction between managers working within the alliance partnership | 1 to 5 |
| 7.6 | We keep our partner well informed about important decisions | 1 to 5 |
| 7.7 | Our partner is well integrated with our firm | 1 to 5 |
| | is well integrated with our partner | 1 to 5 |
8. *How well do you think your activities with your partner are closely coordinated?*

9. Not very well 1 to 5 Very well
*How well do the different functional groups in the alliance work together
Towards achieving the objectives of the alliance?*
- Not very well 1 to 5 Extremely well
10. *To what extent are your firm's goals and objectives consistent with those of
your alliance partner?*
- Not at all consistent 1 to 5 Very consistent
11. *How often are you in contact with your alliance partner?*
- 11.1 Daily
- 11.2 Weekly
- 11.3 Monthly
- 11.4 Quarterly
- 11.5 ½ Yearly
- 11.6 Yearly
- 11.7 No set frequency
12. *How important are the following contact mechanisms in your relationship
With your alliance partner? (1 = Not at all; 5 = Very important)*
- 12.1 Personal face to face discussions 1 to 5
- 12.2 Letters, memos, written reports 1 to 5
- 12.3 Telephone calls 1 to 5
- 12.4 Group / committee meetings 1 to 5
- 12.5 Board meetings 1 to 5
13. *Would you say your firm and your partner firm are equally dependent on
each other ? (1 = Not at all; 5 = Very much so)*
- Not at all 1 to 5 Very much so
14. *How easily do you think you could replace your existing partner? (1 = Not a
at all 5 = Very easily)*
- Not at all 1 to 5 Very easily
15. *How likely is your firm to switch to a new alliance partner? (1 = Not at all
Likely; 5 = Very likely)*

- | | Not at all | 1 to 5 | Very likely |
|-------|--|--------|-------------|
| 16. | <i>How dependent is your firm on your partner in terms of the following?</i>
(1 = Not at all; 5 = Very dependent) | | |
| 16.1 | Financial resources | | 1 to 5 |
| 16.2 | Technological expertise | | 1 to 5 |
| 16.3 | Management skills | | 1 to 5 |
| 16.4 | Marketing | | 1 to 5 |
| 16.5 | Sales & profits | | 1 to 5 |
| 16.6 | Market information | | 1 to 5 |
| 16.7 | Customer services | | 1 to 5 |
| 16.8 | Manufacturing capability | | 1 to 5 |
| 16.9 | Administrative support | | 1 to 5 |
| 16.10 | Manpower resources | | 1 to 5 |
| 17. | <i>How would you describe the level of agreement between you and your partner?</i> (1 = Weak agreement; 5 = Strong agreement) | | |
| 17.1 | The goals and objectives of the alliance | | 1 to 5 |
| 17.2 | The ways in which activities are performed | | 1 to 5 |
| 17.3 | The contractual terms of the relationship | | 1 to 5 |
| 17.4 | The strategic direction | | 1 to 5 |
| 17.5 | Allocation of resources | | 1 to 5 |
| 17.6 | Control over key decisions in the alliance | | 1 to 5 |
| 17.7 | Roles and functions to be performed | | 1 to 5 |
| 17.8 | Future plans and prospects | | 1 to 5 |
| 17.9 | Conflict resolution mechanism | | 1 to 5 |
| 17.10 | Daily operation of the alliance | | 1 to 5 |
| 18. | <i>How well do the following statements describe your firm's commitment to your alliance partner?</i> (1 = Not very well; 5 = Exactly) | | |
| 18.1 | Our firm shows a strong sense of loyalty to our partner | | 1 to 5 |
| 18.2 | Our firm has a strong sense of belonging to the alliance partnership | | 1 to 5 |
| 18.3 | We strongly identify with the goals and objectives of the alliance | | 1 to 5 |
| 18.4 | We believe the alliance partnership has a shared vision and understanding | | 1 to 5 |
| 18.5 | The alliance partnership is valuable to us | | 1 to 5 |
| 19. | <i>To what extent does your firm meet its obligations to the alliance partner?</i>
(1 = Not at all; 5 = To a large extent) | | |

- 19.1 We are always willing to listen to any problems our partner may have 1 to 5
- 19.2 We encourage our firm to achieve the goals of the alliance 1 to 5
- 19.3 We try to overcome problems as they arise 1 to 5
- 19.4 We try to satisfy the needs of our partner 1 to 5
- 19.5 We put a lot of effort and investment in to building the relationship 1 to 5
- 19.6 We try to be patient with the partner firm if they make mistakes 1 to 5
- 19.7 We are always willing to make compromises to reach our mutual objectives 1 to 5
20. *How well do the following describe your firm's motivation for maintaining the relationship with your alliance partner? (1 = Not at all; 5 = Very well)*
- 20.1 Staying in the relationship is a necessity for us 1 to 5
- 20.2 Staying in the relationship is a desire for us 1 to 5
- 20.3 We make short term sacrifices in order to achieve long term gains 1 to 5
- 20.4 We enjoy our relationship with our partner 1 to 5
- 20.5 We believe that a long term relationship with our partner will be profitable 1 to 5
- 20.6 The relationship is important in achieving our strategic objectives 1 to 5
21. *How would you describe the level of trust between your firm and your partner firm? (1 = Very low trust; 5 = Very high trust)*
- Very low trust 1 to 5 Very high trust
22. *To what extent do you agree with the following statements about your partner? (1 = Strongly disagree; 5 = Strongly agree)*
- 22.1 Our partner can be trusted to keep promises they make 1 to 5
- 22.2 Our partner is sincere when making important decisions concerning the alliance 1 to 5
- 22.3 Our partner is seen as being self centered and opportunistic 1 to 5
- 22.4 Our partner is always ready and willing to offer us support 1 to 5
- 22.5 Our partner shows a high degree of loyalty towards us 1 to 5
23. *Which of the following statements best describes your firm's relationship with your partner? (1 = Not at all; 5 = Very well)*
- 23.1 There is a lack of continuity in management teams 1 to 5

- 23.2 The relationship is marked by a high degree of harmony 1 to 5
 23.3 The relationship is open and informal 1 to 5
 23.4 There are close personal ties between us and our alliance partner 1 to 5
 23.5 Our partner firm makes every effort to keep to the commitments made 1 to 5
 23.6 We do not take advantage of each other 1 to 5
 23.7 We can always rely on each other when it counts 1 to 5
 23.8 We share work related problems with our partner 1 to 5

24. *How much confidence do you have in your partner?*
 (1 = No confidence at all; 5 = A lot of confidence)

No confidence at all 1 to 5 A lot of confidence

25. *How would you describe the degree of conflict between you and your partner?* (1 = Very low; 5 = Very high)

Very low 1 to 5 Very high

26. *If disagreements arise between your firm and your partner firm, how well do the following statements describe your response?*
 (1 = not at all; 5 = very well)

- 26.1 We generally try to avoid the issue 1 to 5
 26.2 We try to smooth over the issues 1 to 5
 26.3 We are assertive and domineering 1 to 5
 26.4 We try to persuade our partner to accept our point of view 1 to 5
 26.5 We engage in joint problem solving 1 to 5
 26.6 We use outside arbitration 1 to 5

27. *How often would you say there are disagreements between your firm and your alliance partner?* (1 = Never; 5 = All the time)

Never 1 to 5 All the time

28. *To what extent do the following contribute to any conflict between your organization and your alliance partner?*
 (1 = Not at all; 5 = To a large extent)

- 28.1 Poor communications 1 to 5
 28.2 Distrust 1 to 5
 28.3 Conflicting goals 1 to 5
 28.4 Personality Conflicts 1 to 5
 28.5 Cultural misunderstandings 1 to 5

- 28.6 Language difficulties 1 to 5
29. *How would you describe your communications with your alliance partner?*
- | | | | |
|------|--------------|--------|---------------|
| 29.1 | untimely | 1 to 5 | very timely |
| 29.2 | inaccurate | 1 to 5 | very accurate |
| 29.3 | inadequate | 1 to 5 | very adequate |
| 29.4 | incomplete | 1 to 5 | very complete |
| 29.5 | not credible | 1 to 5 | very credible |
30. *To what extent do you agree with the following statements?*
(1 = Strongly disagree; 5 = Strongly agree)
- | | | |
|------|--|--------|
| 30.1 | We participate in goal setting with our partner firm | 1 to 5 |
| 30.2 | We help our partner in its planning activities | 1 to 5 |
| 30.3 | We hold regular meetings with our partner | 1 to 5 |
| 30.4 | We seek our partner's advice for ideas when making decisions | 1 to 5 |
| 30.5 | Our partner firm consults and informs us before making key decisions | 1 to 5 |
31. *To what extent do the following describe the way in which you and you partner share information?* (1= Not at all; 5=To a large extent)
- | | | |
|------|---|--------|
| 31.1 | We share proprietary information with our partner | 1 to 5 |
| 31.2 | We inform the partner in advance of the changing needs of the alliance | 1 to 5 |
| 31.3 | Both parties are expected to keep each other informed about events or changes that may affect the other | 1 to 5 |
| 31.4 | We hesitate to give our partner too much information | 1 to 5 |

SECTION 3. ORGANIZATIONAL CHARACTERISTICS

32. *How well do the following describe the terms of your agreement with your partner?* (1= Not at all; 5 = Very well)
- | | | |
|------|--|--------|
| 32.1 | Written documents set out detailed tasks and activities for both parties | 1 to 5 |
| 32.2 | Our partnership is based on a shared informal | |

- understanding 1 to 5
- 32.3 Both parties follow the specific terms and conditions of the agreement 1 to 5
33. *How well do the following describe the decision making process within the alliance? (1 = Not at all; 5 = Very well)*
- 33.1 All information passed to the partner is channelled through a designated office 1 to 5
- 33.2 All contact between the two firms is through alliance managers 1 to 5
- 33.3 Both parties frequently participate in joint decision-making 1 to 5
34. *How would you describe the organization of this alliance?*
- 34.1 very complex 1 to 5 very simple
- 34.2 very hierarchical 1 to 5 very informal
- 34.3 very flexible 1 to 5 very inflexible
35. *Could you please indicate in which of the following your firm has control within the alliance? (1= Our firm has complete control; 5 = Alliance partner has complete control)*
- 35.1 Financial activities 1 to 5
- 35.2 Product planning 1 to 5
- 35.3 Production planning 1 to 5
- 35.4 R&D 1 to 5
- 35.5 Marketing and sales 1 to 5
- 35.6 Quality control 1 to 5
- 35.7 Pricing policy 1 to 5
- 35.8 Distribution facilities 1 to 5
- 35.9 Customer support 1 to 5
- 35.10 Manpower management 1 to 5
36. *How would you describe the extent of overall control within the alliance ?*
- We have dominant control 1 to 5 They have dominant control
37. *To what extent does your firm use the following mechanisms to monitor the alliance activities? (1=Never; 5=Always)*
- 37.1 Board of directors 1 to 5
- 37.2 Power of veto 1 to 5
- 37.3 Equity ownership 1 to 5

37.4	Contractual formal agreement	1 to 5
37.5	Technical superiority	1 to 5
37.6	Management skills	1 to 5
37.7	Involvement in planning process	1 to 5
37.8	Regular reporting on performance	1 to 5
37.9	A teamwork culture	1 to 5
3.10	Appointment of key personnel to important activities	1 to 5
37.11	Informal and formal contacts between managers	1 to 5

SECTION 4 SUCCESS OF ALLIANCE

- 38 *Could you please indicate first, which of the following criteria you use to evaluate the performance of the alliance and second, in terms of these criteria, how successful the alliance has been?*

Criteria used (please tick all relevant)		Level of satisfaction 1=very unsuccessful; 5=very successful	
Market Share	<input type="checkbox"/>	1 to 5	too early to comment
Sales growth	<input type="checkbox"/>	1 to 5	too early to comment
Profitability	<input type="checkbox"/>	1 to 5	too early to comment
Access to market	<input type="checkbox"/>	1 to 5	too early to comment
Cost control	<input type="checkbox"/>	1 to 5	too early to comment
Competitive position	<input type="checkbox"/>	1 to 5	too early to comment
Technology development	<input type="checkbox"/>	1 to 5	too early to comment
Product design	<input type="checkbox"/>	1 to 5	too early to comment
Marketing	<input type="checkbox"/>	1 to 5	too early to comment
Distribution	<input type="checkbox"/>	1 to 5	too early to comment
Return on Investment	<input type="checkbox"/>	1 to 5	too early to comment

39. *How satisfied are you with the following aspects of the relationship with your alliance partner? (1= Very dissatisfied; 5= Very satisfied)*

39.1	Coordination of activities	1 to 5
39.2	Level of interaction between managers	1 to 5
39.3	Compatibility of activities	1 to 5
39.4	Participation in decision making by partner	1 to 5
39.5	Level of commitment shown by your partner	1 to 5
39.6	Your partner's sharing of information with your firm	1 to 5
39.7	Your partner's assistance in managing alliance activities	1 to 5
39.8	Level of honesty shown to your firm	1 to 5

40. *What is your perception of your partner's satisfaction with the alliance's performance?*

Very dissatisfied 1 to 5 Very satisfied

41. *To what extent do you think the alliance is meeting / has met your firm's overall objectives? (1= Not at all; 5= Very well)*

41.1	Profits	1 to 5	too early to comment
41.2	Market share	1 to 5	too early to comment
41.3	Sales growth	1 to 5	too early to comment
41.4	Market development	1 to 5	too early to comment
41.5	Product development	1 to 5	too early to comment

42. *Since the alliance started how would you rate your firm's performance? (1= Increased a lot; 5= Decreased a lot)*

42.1	Market share	1 to 5	too early to comment
42.2	Sales growth	1 to 5	too early to comment
42.3	Profitability	1 to 5	too early to comment

43. *In overall terms how satisfied are you with the alliance's overall performance?*

Very dissatisfied 1 to 5 Very satisfied

44. *To what extent does your firm and your partner firm agree on the future of the alliance?*

Both our firm and our partner firm have agreed on a specific plan for termination	1 to 5	Both our firm and our partner firm anticipates a long-term relationship
---	--------	---

45. *Has the alliance already been terminated? yes no . If yes please explain why*

.....

46. *Please indicate, if applicable the date of termination of the alliance.....*

Name of Alliance Executive completing questionnaire.....

Company Name and Address

.....
.....

THANK YOU FOR YOUR COOPERATION

APPENDIX 3

MEASUREMENT

MEASURES USED	NO OF ITEMS	SOURCE
<p>COORDINATION (1=Not at all; 5=Very well)</p> <p>We work as team with our partner</p> <p>There is a regular exchange of ideas between our firm and the partner firm</p> <p>We develop strategies and expect our partner to fit in with them</p> <p>Our partner's activities are an extension of our firm's activities</p> <p>There is a high level of interaction between managers working within the alliance partnership</p> <p>We keep our partner well informed about important decisions</p> <p>Our partner is well integrated with our firm</p> <p>Our firm is well integrated with our partner</p>	8	New Scale
<p>How well do you think your activities with your partner are closely coordinated (1=Not very well; 5=Very well)</p>	1	Mohr and Spekman (1994)
<p>How well do the different functional groups in the alliance work together towards achieving the objectives of the alliance (1=Not very well; 5=Extremely well)</p>	1	New Scale
<p>To what extent are your firm's goals and objectives consistent with those of your alliance partner (1=Not at all consistent; 5=Very consistent)</p>	1	New Scale

MEASURES USED	NO OF ITEMS	SOURCE
INTERDEPENDENCE (1=Not at all; 5=Very dependent)	10	New Scale
Financial resources		
Technological expertise		
Management skills		
Marketing capability		
Sales and profits		
Market information		
Customer services		
Manufacturing capability		
Administrative support		
Manpower resources		
Would you say your firm and your partner firm are equally dependent on each other? (1=Not at all; 5=Very much so)	1	Adapted from Kumar et al (1995)
How easily do you think you could replace your existing partner? (1=Not at all; 5=Very easily)	1	Adapted from Kumar et al (1995)
How likely is your firm to switch to a new alliance partner? (1=Not at all likely; 5=Very likely)	1	Adapted from Mohr and Spekman (1994)

MEASURES USED	NO OF ITEMS	SOURCE
COMMITMENT (1=Weak Agreement; 5=Strong agreement)	10	New Scale
The goals and objectives of the alliance		
The ways in which activities are performed		
The contractual terms of the relationship		
The strategic direction		
Allocation of resources		
Control over key decisions in the alliance		
Roles and functions to be performed		
Future plans and prospects		
Conflict resolution mechanism		
Daily operation of the alliance		
(1=Not very well; 5=Exactly)	5	New Scale
Our firm shows a strong sense of loyalty to our partner		
Our firm has a strong sense of belonging to the alliance partnership		
We strongly identify with the goals and objectives of the alliance		
We believe the alliance partnership has a shared vision and understanding		
The alliance partnership is valuable to us		
(1 = Not at all; 5 = To a large extent)	7	New Scale
We are always willing to listen to any problems our partner may have the alliance		
We encourage our firm to achieve the goals of the alliance		
We try to overcome problems as they arise		
We try to satisfy the needs of our partner		
We put a lot of effort and investment in to building the relationship		
We try to be patient with the partner firm if they make mistakes		
We are always willing to make compromises to reach our mutual objectives		

MEASURES USED	NO OF ITEMS	SOURCE
<p>(1 = Not at all; 5 = Very well)</p> <p>Staying in the relationship is a necessity for us Staying in the relationship is a desire for us We make short term sacrifices in order to achieve long term gains We enjoy our relationship with our partner We believe that a long term relationship with our partner will be profitable The relationship is important in achieving our strategic objectives</p>	6	New Scale
<p>TRUST (1=Strongly disagree; 5=Strongly agree)</p> <p>Our partner can be trusted to keep promises they make Our partner is sincere when making important decisions concerning the alliance Our partner is seen as being self centered and opportunistic Our partner is always ready and willing to offer us support Our partner shows a high degree of loyalty towards us</p>	5	New Scale
<p>(1 = Not at all; 5 = Very well)</p> <p>There is a lack of continuity in management teams The relationship is marked by high degree of harmony The relationship is open and informal There are close personal ties between us</p>	8	New Scale

MEASURES USED	NO OF ITEMS	SOURCE
Our partner firm makes effort to keep commitments We do not take advantage of each other We can always rely on each other We share work related problems	1	New Scale
How would you describe the level of trust between your firm and your partner firm? (1 = Very low trust; 5 = Very high trust)	1	New Scale
How much confidence do you have in your partner? (1 = No confidence at all; 5 = A lot of confidence)	1	New Scale
CONFLICT (1 = not at all; 5 = very well)	6	Mohr and Spekman (1994)
We generally try to avoid the issue We try to smooth over the issues We are assertive and domineering We try to persuade our partner to accept our point of view We engage in joint problem solving We use outside arbitration	6	New Scale
(1 = Never; 5 = All the time) Poor communications Distrust Conflicting goals Personality Conflicts Cultural misunderstandings Language difficulties	6	New Scale

MEASURES USED	NO OF ITEMS	SOURCE
---------------	-------------	--------

How would you describe the degree of conflict between you and your partner?
(1 = Very low; 5 = Very high)

New Scale

1

How often would you say there are disagreements between your firm and your alliance partner? (1=Never; 5=All the time)

New Scale

1

INFORMATION QUALITY

- untimely /very timely
- Inaccurate/ very accurate
- Inadequate/ very adequate
- Incomplete/ very complete
- Not credible/ very credible

Mohr and Spekman (1994)

5

PARTICIPATION (1 = Strongly disagree; 5 = Strongly agree)

- We participate in goal setting with our partner firm
- We help our partner in its planning activities
- We hold regular meetings with our partner
- We seek our partner's advice for ideas when making decisions
- Our partner firm consults and informs us before making key decisions

Adapted from
Mohr and Spekman (1994)

5

MEASURES USED	NO OF ITEMS	SOURCE
<p>INFORMATION SHARING (1= Not at all; 5=To a large extent)</p> <p>We share proprietary information with our partner We inform the partner in advance of the changing needs of the alliance Both parties are expected to keep each other informed about events or changes that may affect the other We hesitate to give our partner too much information</p>	4	Adapted from Mohr and Spekman (1994)
<p>FORMALIZATION (1= Not at all; 5 = Very well)</p> <p>Written documents set out detailed tasks and activities for both parties Our partnership is based on a shared informal Understanding Both parties follow the specific terms and conditions of the agreement</p>	3	Adapted from Ruekert and Walker (1987)
<p>CENTRALIZATION (1 = Not at all; 5 = Very well)</p> <p>All information passed to the partner is channelled through a designated office All contact between the two firms is through alliance managers Both parties frequently participate in joint decision-making</p>	3	New Scale
<p>COMPLEXITY</p> <p>Very complex / very simple Very hierarchical /very informal Very flexible / very inflexible</p>	3	New Scale

MEASURES USED	NO OF ITEMS	SOURCE
<p>FOCUS OF CONTROL (1= Our firm has complete control; 5 = Alliance partner has complete control)</p> <ul style="list-style-type: none"> Financial activities Product planning Production planning R&D Marketing and sales Quality control Pricing policy Distribution facilities Customer support Manpower management 	10	Schaan (1983) Geringer and Herbert (1989)
<p>EXTENT OF CONTROL How would you describe the extent of overall control within the alliance ? (1=We have dominant control; 5=They have dominant control) Herbert (1989)</p>	1	Killing (1983) Geringer and
<p>CONTROL MECHANISM (1=Never; 5=Always)</p> <ul style="list-style-type: none"> Board of directors Power of veto Equity ownership Contractual formal agreement Technical superiority Management skills Involvement in planning process Regular reporting on performance A teamwork culture 	11	Schaan (1983) Geringer and Herbert (1989)

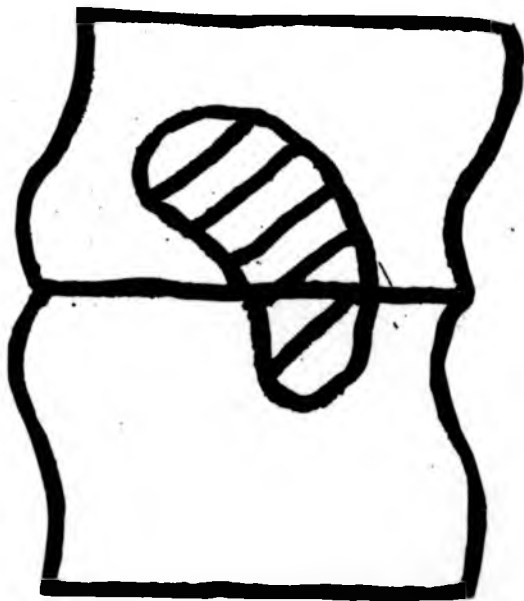
MEASURES USED	NO OF ITEMS	SOURCE
Appointment of key personnel to important activities Informal and formal contacts between managers	11	Adapted from Schaan (1983)
ALLIANCE PERFORMANCE (1=Very Successful; 5=Very successful)		
Market share Sales growth Profitability Access to market Cost control Competitive position Technology development Product design Marketing Distribution Return on Investment		
ALLIANCE SATISFACTION (1= Very dissatisfied; 5= Very satisfied)	8	New Scale
Coordination of activities Level of interaction between managers Compatibility of activities Participation in decision making by partner Level of commitment shown by your partner Your partner's sharing of information with your firm Your partner's assistance in managing alliance activities Level of honesty shown to your firm		

MEASURES USED	NO OF ITEMS	SOURCE
(1= Not at all; 5= Very well)	5	Adapted from Reukert and Churchill (1984)
Profits		
Market share		
Sales growth		
Market development		
Product development		
In overall terms how satisfied are you with the alliance's overall performance? (1=Very dissatisfied ,5= Very satisfied)	1	Killing (1983)
What is your perception of your partner's satisfaction with the alliance's Performance (1=Very dissatisfied,5=Very satisfied)	1	Bucklin and Sengupta (1993)

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APPENDIX 4
Correlation Matrix For Behavioural Variables

	ADP:ACC	ADP:ACTV	ADP:TEAM	ADP:TRAT	ADP:RESR	ADP:PROP	ADP:AN	ADP:OSR	ADP:COM1	ADP:COM2	ADP:COM3	ADP:COM4	ADP:COM5	MEET:R1	MEET:R2	MEET:R3	MEET:R4	MEET:R5	MEET:R6	MEET:R7	MOT:R1	MOT:R2
ADP:ACC	1.00	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14
ADP:ACTV	0.14	1.00	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14
ADP:TEAM	0.14	0.14	1.00	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14
ADP:TRAT	0.14	0.14	0.14	1.00	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14
ADP:RESR	0.14	0.14	0.14	0.14	1.00	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14
ADP:PROP	0.14	0.14	0.14	0.14	0.14	1.00	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14
ADP:AN	0.14	0.14	0.14	0.14	0.14	0.14	1.00	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14
ADP:OSR	0.14	0.14	0.14	0.14	0.14	0.14	0.14	1.00	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14
MEET:R1	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	1.00	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14
MEET:R2	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	1.00	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14
MEET:R3	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	1.00	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14
MEET:R4	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	1.00	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14
MEET:R5	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	1.00	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14
MEET:R6	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	1.00	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14
MEET:R7	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	1.00	0.14	0.14	0.14	0.14	0.14	0.14	0.14
MOT:R1	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	1.00	0.14	0.14	0.14	0.14	0.14	0.14
MOT:R2	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	1.00	0.14	0.14	0.14	0.14	0.14

APPENDIX 4
Correlation Matrix for Organizational Variables

	FMOO8B	FMOO9B	FMOO10B	OVERCO8B	MONMEC1B	MONMEC2B	MONMEC3B	MONMEC4B	MONMEC5B	MONMEC6B	MONMEC7B	MONMEC8B	MONMEC9B	MONMEC10B	MONMEC11B
FMOO8B	1.000														
FMOO9B	.706*	1.000													
FMOO10B	.548*	.000	1.000												
OVERCO8B	.326*	.000	.000	1.000											
MONMEC1B	.152	.000	.000	.000	1.000										
MONMEC2B	.040	.000	.000	.000	.000	1.000									
MONMEC3B	.063	.000	.000	.000	.000	.000	1.000								
MONMEC4B	.031	.000	.000	.000	.000	.000	.000	1.000							
MONMEC5B	.019	.000	.000	.000	.000	.000	.000	.000	1.000						
MONMEC6B	.242*	.008	.000	.000	.000	.000	.000	.000	.000	1.000					
MONMEC7B	.152	.000	.000	.000	.000	.000	.000	.000	.000	.000	1.000				
MONMEC8B	.152	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	1.000			
MONMEC9B	.110	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	1.000		
MONMEC10B	.018	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	1.000	
MONMEC11B	.165	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	1.000

*. Correlation is significant at the 0.01 level (2-tailed).
*. Correlation is significant at the 0.05 level (2-tailed).

APPENDIX 4

Correlation Matrix for Success Variables

	SUCMIKSHA	SUCSALGR	SUCPROFI	OBUMET1	OBUMET2	OBUMETS	SATCORAC	SATINTMG	SATCOMAC	SATPARDC	SATLYCOM	SATSHINF	SATMANGT	SATHONST	OVERPERF	PARTNSAT
SATMANGT	.580*	.352*	.468*	.459*	.532*	.491*	.605*	.672*	.609*	.654*	.616*	.705*	1.000	.598**	.550**	.439**
SATHONST	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.114	.000	.000	.000
OVERPERF	.114	.114	.114	.114	.114	.114	.114	.114	.114	.114	.114	.114	.114	.114	.114	.114
PARTNSAT	.477*	.327*	.355*	.366*	.455*	.447*	.628*	.579*	.543*	.686*	.682*	.720*	.598**	1.000	.548**	.503**
	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	.114	.114	.114	.114	.114	.114	.114	.114	.114	.114	.114	.114	.114	.114	.114	.114
	.681**	.542**	.685**	.758**	.764**	.715**	.521**	.554**	.593**	.511**	.468**	.584**	.550**	.548**	1.000	.725**
	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	.114	.114	.114	.114	.114	.114	.114	.114	.114	.114	.114	.114	.114	.114	.114	.114
	.531**	.441**	.610**	.640**	.649**	.585**	.429**	.425**	.599**	.404**	.475**	.486**	.439**	.503**	.725**	1.000
	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	.114	.114	.114	.114	.114	.114	.114	.114	.114	.114	.114	.114	.114	.114	.114	.114

** Correlation is significant at the 0.01 level (2-tailed).

Appendix 4

VARIABLE LIST FOR CORRELATION MATRIX

COORDIN1	Coordination - teamwork with partner
COORDIN2	Coordination - exchange of ideas with partner
COORDIN3	Coordination - strategic fit
COORDIN4	Coordination - partner activities an extension of UK firm
COORDIN5	Coordination - high level of interaction between partners
COORDIN6	Coordination - keep partner well informed
COORDIN7	Coordination - partner firm integrated with UK firm
COORDIN8	Coordination - UK firm integrated with partner
COORACT	Coordination - activities closely coordinated
WORKTOG	Coordination - work together to achieve objectives
CONGOOB	Coordination - goals and objectives consistent with partner
DEPEND	Interdependence - equally dependent
REPLACE	Interdependence - partner easily replaced
SWITCH	Interdependence - likely to switch to new partner
DEPFRES	Interdependence - dependent on financial resources
DEPTECEX	Interdependence - dependent on technological resources
DPEMKSLLL	Interdependence - dependent on management skills
DEPMKCAP	Interdependence - dependent on marketing capability
DEPSALPR	Interdependence - dependent on sales and profit
DEPMKINF	Interdependence - dependent on market information
DEPCSERV	Interdependence - dependent on customer services
DEPMCAP	Interdependence - dependent on manufacturing capability
DEPADMIN	Interdependence - dependent on administrative support
DEPMANPO	Interdependence - dependency on manpower resources
AGROBJEC	Commitment - agreement over goals and objectives
ARGACTIV	Commitment - agreement over activities performed
AGRTERMS	Commitment - agreement over contractual terms
AGRSTRAT	Commitment - agreement over strategic direction
AGRAIRES	Commitment - agreement over allocation of resources
AGRKYDES	Commitment - agreement over control over key decisions
AGROFUN	Commitment - agreement over roles/functions performed
AGRFLAN	Commitment - agreement over future plans
AGRCONFL	Commitment - agreement over conflict resolution
AGRDOPER	Commitment - agreement over daily operation of alliance
COMMIT1	Commitment - show strong sense of loyalty to partner
COMMIT2	Commitment - show strong sense of belonging
COMMIT3	Commitment - identify with goals and objectives
COMMIT4	Commitment - share understanding and vision
COMMIT5	Commitment - partnership is valuable to us
MEETOBL1	Commitment - listen to problems of partner
MEETOBL2	Commitment - encourage goal achievement
MEETOBL3	Commitment - try to overcome problems
MEETOBL4	Commitment - try to satisfy partners needs
MEETOBL5	Commitment - help to build the relationship
MEETOBL6	Commitment - patient with partner over mistakes made
MEETOBL7	Commitment - make compromises to reach mutual objectives
MOTREL1	Commitment - staying in relationship a necessity
MOTREL2	Commitment - staying in relationship a desire
MOTREL3	Commitment - achievement of long-term goals
MOTREL4	Commitment - enjoy the relationship
MOTREL5	Commitment - motivated by profitability
MOTREL6	Commitment - achieve strategic objectives

TRUST	Trust – level of trust
TRUSPROM	Trust – partner trusted to keep promises
TRUSSINC	Trust – partner trusted to be sincere
TRUSOPPO	Trust – partner self centered and opportunistic
TRUSSUPP	Trust – Partner trusted to be supportive
TRUSLOYL	Trust – Partner trusted to show loyalty
RELPART1	Trust – lack of continuity in management teams
RELPART2	Trust – relationship marked by a high degree of harmony
REIPART3	Trust – relationship open and informal
RELPART4	Trust – close personal ties between us
RELPART5	Trust – partner makes effort to keep commitments made
RELPART6	Trust – we do not take advantage of each other
RELPART7	Trust – we can always rely on each other
RELPART8	Trust – we share work related problems
CONFDNCE	Trust – level of confidence in partner
DEGRCONF	Conflict – degree of conflict
DISARIS1	Conflict – try to avoid the issue
DISARIS2	Conflict – try to smooth over issues
DISARIS3	Conflict – assertive and domineering
DISARIS4	Conflict – persuasion
DISARIS5	Conflict – engage in joint problem solving
DISARIS6	Conflict – outside arbitration
DISAGREE	Conflict – frequency of disagreements
CONFLIC1	Conflict – poor communications
CONFLIC2	Conflict - distrust
CONFLIC3	Conflict – conflicting goals
CONFLIC4	Conflict – personality conflicts
CONFLIC5	Conflict – cultural misunderstandings
CONFLIC6	Conflict – language difficulties
COMMTIME	Communication – untimely/timely
COMMACUR	Communication – inaccurate/accurate
COMMADEQ	Communication – inadequate/adequate
COMMCOMP	Communication – incomplete/complete
COMMCREC	Communication – not credible/credible
PARTGOAL	Communication – participate in goal setting
PARTPLAM	Communication – participate in planning activities
PARTMEET	Communication – participate in regular meetings
PARTDEC1	Communication – seek partner's advice when making decisions
PARTDEC2	Communication – partner seeks advice before making decisions
SHARINF1	Communication – we share proprietary information
SHARINF2	Communication – inform partner in advance of changing needs
SHARINF3	Communication – keep each other informed changes
SHARINF4	Communication – hesitate to give too much information
AGRTERM1	Structure – detailed tasks and activities
AGRTERM2	Structure – shared informal understanding
AGRTERM3	Structure – specific terms and conditions of agreement
DECPROC1	Structure – all information channelled through designated office
DECPROC2	Structure – all contact through alliance managers
DECPROC3	Structure – both participate in joint decision-making
OGANFLEX	Structure – very complex/very simple
OGNAHIER	Structure – very hierarchical/ very informal
OGANCOMP	Structure – very flexible/inflexible
FIMCON1	Control – over financial activities
FIMCON2	Control – over product planning
FIMCON3	Control – over production planning
FIMCON4	Control – over R&D
FIMCON5	Control – over marketing and sales
FIMCON6	Control – quality control
FIMCON7	Control – over pricing policy
FIMCON8	Control – over distribution facilities

FIMCON9	Control – over customer support
FIMCON10	Control – over manpower management
OVERCON	Control – extent of control
MONMEC1	Control – monitored through board of directors
MONMEC2	Control – monitored through power of veto
MONMEC3	Control – monitored through equity ownership
MONMEC4	Control – monitored through contractual agreement
MONMEC5	Control – monitored through technical superiority
MONMEC6	Control – monitored through management skills
MONMEC7	Control – monitored through involvement in planning process
MONMEC8	Control – monitored through regular reporting on performance
MONMEC9	Control – monitored through teamwork culture
MONMEC10	Control – monitored through appointment of personnel
MONMEC11	Control – monitored through informal / formal contacts
SUCMKHSA	Alliance Performance – market share
SUCSALGR	Alliance Performance – sales growth
SUCPROFI	Alliance Performance – profitability
OBJET1	Alliance Satisfaction – profitability
OBJET2	Alliance Satisfaction – market share
OBJET3	Alliance Satisfaction – sales growth
SATCORAC	Alliance Satisfaction – coordination of activities
SATINTMG	Alliance Satisfaction – interaction between managers
SATCOMAC	Alliance Satisfaction – compatibility of activities
SATPARDC	Alliance Satisfaction – participation in decision making
SATLVCOM	Alliance Satisfaction – commitment of partner
SATSHINF	Alliance Satisfaction – sharing of information
SATMANGT	Alliance Satisfaction – assistance in management activities
SATHONST	Alliance Satisfaction – honesty of partner
PARTNSAT	Alliance Satisfaction – perceived partner satisfaction
OVERPER	Alliance Satisfaction – over all alliance performance

APPENDIX 5

RESULTS OBTAINED USING SATISFACTION MEASURES
OF SUCCESS FOR UK INTERNATIONAL STRATEGIC
ALLIANCES

T-TESTS

1 LEVEL OF COORDINATION

Proposition 1: The level of coordination between partners will be higher for successful UK international strategic alliances compared with less successful international strategic alliances

Table A5.1a Differences in the Level of Coordination between Successful and Less Successful UK International Strategic Alliances in terms of Satisfaction with the Relationship

Coordination	Successful Group		Less Successful Group		Difference	
	Mean	SD	Mean	SD	T value	Sig
Teamwork with partner	4.1	0.84	2.7	0.93	7.88	.000*
Exchange of ideas with partner	4.1	0.84	3.1	1.1	5.77	.000*
Strategic fit	2.4	1.0	2.6	1.1	-1.44	Ns
Partner activities an extension of UK firm's activities	3.1	1.3	2.6	1.4	2.24	.027***
Interaction between managers	3.9	1.1	2.9	1.1	4.55	.000*
Partner informed of important decisions	4.2	0.89	3.3	0.88	5.68	.000*
Partner integrated with UK firm	3.0	1.3	2.3	1.0	3.03	.003**
UK firm integrated with partner	2.9	1.3	2.1	0.91	3.67	.000*
Coordinated activities	4.0	0.79	2.8	1.1	6.74	.000*
Working together to achieve objectives	4.0	1.0	2.6	0.83	9.10	.000*
Goals/objectives consistent with partner's	3.8	0.99	3.0	1.0	4.19	.000*

* <p=.001, **<p=.01, ***<p=.05

Table A5.1b Differences in the Level of Coordination between Successful and Less Successful UK International Strategic Alliances in terms of Satisfaction with Alliance objectives

Coordination	Successful Group		Less Successful Group		Difference	
	Mean	SD	Mean	SD	T value	Sig
Teamwork with partner	4.0	0.90	2.9	1.0	6.24	.000*
Exchange of ideas with partner	4.0	0.88	3.1	1.1	4.95	.000*
Strategic fit	2.4	1.0	2.6	1.1	-0.98	Ns
Partner activities an extension of UK firm's activities	3.2	1.2	2.5	1.4		.002**
Interaction between managers	3.9	1.1	2.8	1.1	5.46	.000*
Partner informed of important decisions	4.2	0.89	3.3	0.93	4.83	.000*
Partner integrated with UK firm	3.0	1.2	2.2	1.0	3.87	.000*
UK firm integrated with partner	3.0	1.2	2.1	1.0	4.36	.000*
Coordinated activities	3.9	0.87	2.9	1.1	5.52	.000*
Working together to achieve objectives	3.8	0.84	2.9	0.96	5.27	.000*
Goals/objectives consistent with partner's	3.8	0.92	3.0	1.1	4.28	.000*

* <p=.001, **<p=.01

Table A5.1c Differences in the Level of Coordination between Successful and Less Successful UK International Strategic Alliances in terms of Satisfaction with Overall Alliance Performance

Coordination	Successful Group		Less Successful Group		Difference	
	Mean	SD	Mean	SD	T value	Sig
Teamwork with partner	3.9	1.0	2.9	0.95	5.23	.000*
Exchange of ideas with partner	4.0	1.0	3.2	1.0	4.29	.000*
Strategic fit	2.4	1.0	2.6	1.0	-1.17	Ns
Partner activities an extension of UK firm's activities	3.2	1.1	2.5	1.4	3.12	.002**
Interaction between managers	3.9	1.0	2.8	1.2	5.46	.000*
Partner informed of important decisions	4.2	0.80	3.3	1.0	4.83	.000*
Partner integrated with UK firm	3.0	1.2	2.3	1.0	3.50	.001*
UK firm integrated with partner	3.0	1.2	2.1	1.0	4.16	.000*
Coordinated activities	3.9	0.82	2.8	1.0	6.57	.000*
Working together to achieve objectives	3.9	0.83	2.7	0.82	7.33	.000*
Goals/objectives consistent with partner's	3.9	0.85	2.9	1.1	5.45	.000*

* <p=.001, **<p=.01

Table A5.1d Differences in the Level of Coordination between Successful and Less Successful UK International Strategic Alliances in terms of Perceived Partner Satisfaction with Alliance Performance

Coordination	Successful Group		Less Successful Group		Difference	
	Mean	SD	Mean	SD	T value	Sig
Teamwork with partner	3.9	0.99	2.9	0.10	5.13	.000*
Exchange of ideas with partner	4.0	1.0	3.2	1.0	3.75	.000*
Strategic fit	2.3	1.0	2.6	1.0	-1.62	Ns
Partner activities an extension of UK firm's activities	3.2	1.2	2.4	1.4	3.31	.001*
Interaction between managers	3.7	1.1	3.0	1.2	3.08	.003**
Partner informed of important decisions	4.0	1.0	3.5	0.91	3.06	.003**
Partner integrated with UK firm	2.9	1.2	2.4	1.1	2.51	.001***
UK firm integrated with partner	2.9	1.2	2.2	1.1	2.93	.004**
Coordinated activities	4.0	0.82	2.8	1.1	6.46	.000*
Working together to achieve objectives	3.7	0.84	2.9	0.98	4.94	.000*
Goals/objectives consistent with partner's	3.8	0.91	3.0	1.1	4.41	.000*

* p=.001, **p=.01, ***p=.05

2 LEVEL OF INTERDEPENDENCE

Proposition 2: The level of interdependence between partners will be higher for successful UK international strategic alliances compared with less successful international strategic alliances

Table A5.2a Differences in the Level of Interdependence between Successful and Less Successful UK international Strategic alliances in terms of Satisfaction with the Relationship

Interdependence	Successful Group		Less Successful Group		Difference	
	Mean	SD	Mean	SD	T value	Sig
Equally dependent	3.1	1.4	2.3	1.2	2.93	.004**
Partner replaceable	2.5	1.1	2.9	1.1	-2.00	.048**
Likely to switch to new partner	1.7	1.1	2.4	1.3	-3.45	.001*
Dependent of financial resources	1.8	1.1	1.8	1.2	-.04	Ns
Dependent on technological resources	2.5	1.2	2.2	1.1	1.10	Ns
Dependent on management skills	2.4	1.0	2.1	0.93	1.56	Ns
Dependent on marketing	2.5	1.3	2.7	1.4	-.99	Ns
Dependent on sales/profit	2.2	1.2	2.3	1.4	-.33	Ns
Dependent on market information	2.5	1.3	2.6	1.2	-.69	Ns
Dependent on customer services	2.4	1.4	2.6	1.4	-.66	Ns
Dependent on manufacturing	1.8	1.3	1.6	1.2	.52	Ns
Dependent on administration	1.7	1.0	2.0	1.1	-1.90	Ns
Dependent on manpower	2.3	1.3	2.2	1.3	.45	Ns

* p=.001, **p=.01

Table A5.2b Differences in the Level of Interdependence between Successful and Less Successful UK international Strategic alliances in terms of Satisfaction with meeting UK firm's overall Objectives

Interdependence	Successful Group		Less Successful Group		Difference	
	Mean	SD	Mean	SD	T value	Sig
Equally dependent	3.3	1.3	2.1	1.2	4.89	.000*
Partner replaceable	2.3	1.0	3.1	1.1	-3.69	.000*
Likely to switch to new partner	1.6	0.91	2.5	1.4	-3.80	.000*
Dependent of financial resources						
Dependent on technological resources	2.7	1.2	2.0	1.0	3.01	.003**
Dependent on management skills	2.5	0.99	2.1	0.97	2.20	.030***
Dependent on marketing	2.6	1.3	2.5	1.4	.19	Ns
Dependent on sales/profit	2.4	1.3	2.1	1.3	1.03	Ns
Dependent on market information	2.5	1.3	2.5	1.2	-.01	Ns
Dependent on customer services	2.6	1.4	2.3	1.3	1.15	Ns
Dependent on manufacturing	1.9	1.3	1.5	1.1	1.54	Ns
Dependent on administration	1.7	1.0	2.0	1.1	-1.74	Ns
Dependent on manpower	2.5	1.3	2.1	1.3	1.64	Ns

* p=.001, **p=.01, ***p=.05

Table A5.2c Differences in the Level of Interdependence between Successful and Less Successful UK international Strategic alliances in terms of Satisfaction with Overall Alliance Performance

Interdependence	Successful Group		Less Successful Group		Difference	
	Mean	SD	Mean	SD	T value	Sig
Equally dependent	3.4	1.3	2.0	0.96	6.74	.000*
Partner replaceable	2.4	1.1	3.0	1.1	-3.12	.002**
Likely to switch to new partner	1.6	.89	2.5	1.4	-4.30	.000*
Dependent of financial resources	1.7	1.0	1.9	1.2	-.92	Ns
Dependent on technological resources	2.6	1.2	2.1	1.1	2.66	.009**
Dependent on management skills	2.4	.99	2.1	.99	1.61	Ns
Dependent on marketing	2.4	1.3	2.7	1.4	-1.19	Ns
Dependent on sales/profit	2.2	1.2	2.3	1.4	-.44	Ns
Dependent on market information	2.4	1.3	2.7	1.2	-1.37	Ns
Dependent on customer services	2.5	1.4	2.5	1.4	.08	Ns
Dependent on manufacturing	2.0	1.4	1.4	1.0	2.50	.014***
Dependent on administration	1.8	1.1	1.9	1.0	-.48	Ns
Dependent on manpower	2.3	1.3	2.2	1.4	.35	Ns

* p=.001, **p=.01, ***p=.05

Table A5.2d Differences in the Level of Interdependence between Successful and Less Successful UK international Strategic alliances in terms of Perceived Partner Satisfaction with Alliance Performance

Interdependence	Successful Group		Less Successful Group		Difference	
	Mean	SD	Mean	SD	T value	Sig
Equally dependent	3.1	1.3	2.2	1.2	3.72	.000*
Partner replaceable	2.4	1.1	2.9	1.2	-2.70	.008**
Likely to switch to new partner	1.7	.95	2.4	1.4	-3.56	.001*
Dependent of financial resources	1.7	.99	1.9	1.3	-.88	Ns
Dependent on technological resources	2.6	1.2	2.1	1.2	2.25	.026***
Dependent on management skills	2.3	1.0	2.2	1.0	.41	Ns
Dependent on marketing	2.5	1.3	2.7	1.5	-.72	Ns
Dependent on sales/profit	2.2	1.2	2.3	1.4	-.33	Ns
Dependent on market information	2.4	1.2	2.6	1.2	-.99	Ns
Dependent on customer services	2.5	1.4	2.4	1.4	.15	Ns
Dependent on manufacturing	1.8	1.3	1.5	1.2	1.28	Ns
Dependent on administration	1.8	1.0	1.9	1.1	-.63	Ns
Dependent on manpower	2.3	1.3	2.2	1.3	.45	Ns

* <p=.001, **<p=.01, ***<p=.05

3 LEVEL OF COMMITMENT

Proposition 3: The level of commitment between partners will be higher for successful UK international strategic alliances compared with less successful international strategic alliances

Table A5.3a Differences in the Level of Commitment between Successful and Less Successful UK international Strategic Alliances in terms of Satisfaction with the Relationship

Commitment	Successful Group		Less Successful Group		Difference	
	Mean	SD	Mean	SD	T value	Sig
Goals/objectives	4.3	.90	3.1	1.2	5.91	.000*
Activities performed	3.8	.82	2.9	.95	5.60	.000*
Contractual terms	4.1	1.0	3.3	1.1	4.20	.000*
Strategic direction	4.0	.90	3.0	1.1	5.27	.000*
Resource allocation	3.6	1.1	2.7	.96	4.71	.000*
Key decisions	3.9	1.1	2.9	.83	5.39	.000*
Roles/functions	4.1	.83	3.3	.99	4.51	.000*
Future plans	3.8	.92	2.8	1.0	5.58	.000*
Conflict resolution	3.9	.88	2.7	.98	6.39	.000*
Daily operations	4.1	.77	2.9	.98	7.27	.000*
Loyalty to partnership	4.1	.97	2.9	1.1	5.99	.000*
Sense of belonging	4.0	1.1	2.8	1.1	5.48	.000*
Identify with goals/objectives	4.1	1.0	3.2	1.1	4.06	.000*
Shared vision	3.9	1.1	2.9	1.1	5.14	.000*
Partnership valuable	4.3	1.0	3.4	1.1	4.23	.000*
Listen to problems	4.4	.69	3.8	.91	3.67	.000*
Goal achievement	4.4	.64	3.8	.90	4.05	.000*
Overcome problems	4.4	.62	3.9	.84	3.45	.001*
Satisfy partner needs	4.1	.87	3.4	1.0	3.95	.000*
Effort/investment to build relationship	4.2	.89	3.5	1.0	3.81	.000*
Patient over mistakes	3.9	.75	3.5	.86	3.07	.003**
Compromise to achieve objectives	3.7	.97	3.3	1.1	2.08	.040***
Motivated by necessity	3.1	1.3	2.5	1.3	2.59	.011***
Motivated by desire	4.0	1.0	3.3	1.1	3.21	.002*
Motivated by long-term gains	3.3	1.0	3.2	1.0	.68	Ns
Motivated by enjoyment	4.1	.78	2.9	.97	7.62	.000*
Motivated by profitability	4.4	.94	3.3	1.2	5.39	.000*
Motivated by strategic objectives	4.2	1.1	3.3	1.3	3.94	.000*

* <p<.001, **<p<.01, ***<p<.05

Table A5.3b Differences in the Level of Commitment between Successful and Less Successful UK international Strategic Alliances in terms of Satisfaction with meeting UK Firm's Overall Objectives

Commitment	Successful Group		Less Successful Group		Difference	
	Mean	SD	Mean	SD	T value	Sig
Goals/objectives	4.4	.72	3.1	1.2	7.21	.000*
Activities performed	3.8	.72	2.9	1.0	5.97	.000*
Contractual terms	4.1	.89	3.3	1.2	4.13	.000*
Strategic direction	4.0	.84	3.1	1.2	4.50	.000*
Resource allocation	3.6	.98	2.8	1.1	4.53	.000*
Key decisions	3.8	.95	3.0	1.0	4.70	.000*
Roles/functions	4.0	.84	3.4	1.1	3.08	.003**
Future plans	3.8	.94	2.8	1.0	5.41	.000*
Conflict resolution	3.6	1.1	3.0	1.0	3.04	.003**
Daily operations	3.9	.86	3.1	1.1	4.73	.000*
Loyalty to partnership	4.2	0.85	2.8	1.1	7.13	.000*
Sense of belonging	4.0	1.0	2.8	1.1	5.79	.000*
Identify with goals/objectives	4.1	0.91	3.1	1.2	4.81	.000*
Shared vision	3.9	1.1	3.9	1.1	4.80	.000*
Partnership valuable	4.4	0.79	3.4	1.3	5.27	.000*
Listen to problems	4.4	0.68	3.9	0.92	3.43	.001*
Goal achievement	4.4	0.70	3.8	0.85	4.07	.000*
Overcome problems	4.5	0.60	3.9	0.80	4.70	.000*
Satisfy partner needs	4.2	0.87	3.4	0.97	4.36	.000*
Effort/investment to build relationship	4.2	0.77	3.5	1.1	4.22	.000*
Patient over mistakes	4.0	0.77	3.5	0.86	3.25	.002**
Compromise to achieve objectives	3.9	1.0	3.2	0.97	3.58	.001*
Motivated by necessity	3.3	1.2	2.3	1.3	4.35	.000*
Motivated by desire	4.1	0.82	3.1	1.2	5.20	.000*
Motivated by long-term gains	3.5	1.0	3.0	0.98	2.44	.016**
Motivated by enjoyment	4.0	0.88	2.9	1.0	6.00	.000*
Motivated by profitability	4.4	0.77	3.3	1.3	5.80	.000*
Motivated by strategic objectives	4.3	0.93	3.2	1.4	4.80	.000*

* p=.001, **p=.01

A5.3c Differences in the Level of Commitment between Successful and Less Successful UK international Strategic Alliances in terms of Satisfaction with Overall Alliance Performance

Commitment	Successful Group		Less Successful Group		Difference	
	Mean	SD	Mean	SD	T value	Sig
Goals/objectives	4.4	0.74	3.0	1.2	7.39	.000*
Activities performed	3.8	0.79	2.9	0.95	5.97	.000*
Contractual terms	4.2	0.87	3.2	1.2	4.72	.000*
Strategic direction	4.1	0.85	3.0	1.1	6.08	.000*
Resource allocation	3.7	1.1	2.7	0.93	4.98	.000*
Key decisions	3.9	0.96	2.9	0.94	5.67	.000*
Roles/functions	4.0	0.93	3.5	0.98	2.87	.005**
Future plans	3.9	0.89	2.7	0.99	6.43	.000*
Conflict resolution	3.8	0.97	2.8	0.98	5.18	.000*
Daily operations	4.1	0.84	2.9	0.97	6.52	.000*
Loyalty to partnership	4.1	0.92	2.9	1.1	6.30	.000*
Sense of belonging	3.9	1.1	2.9	1.1	5.13	.000*
Identify with goals/objectives	4.2	0.81	3.1	1.2	5.87	.000*
Shared vision	4.0	1.0	2.8	1.1	6.37	.000*
Partnership valuable	4.4	0.83	3.4	1.2	5.20	.000*
Listen to problems	4.3	0.73	3.9	0.92	2.44	.016***
Goal achievement	4.4	0.69	3.8	0.88	3.53	.001*
Overcome problems	4.4	0.65	3.9	0.81	3.50	.001*
Satisfy partner needs	4.2	0.91	3.4	0.94	4.36	.000*
Effort/investment to build relationship	4.2	0.82	3.5	1.1	4.46	.000*
Patient over mistakes	4.0	0.77	3.5	0.86	3.25	.002**
Compromise to achieve objectives	3.9	1.0	3.2	0.95	3.58	.001*
Motivated by necessity	3.4	1.3	2.3	1.2	4.71	.000*
Motivated by desire	4.1	0.91	3.2	1.2	4.32	.000*
Motivated by long-term gains	3.5	1.0	3.1	1.0	2.05	.043***
Motivated by enjoyment	3.9	0.94	3.0	0.99	5.24	.000*
Motivated by profitability	4.4	0.79	3.3	1.3	5.80	.000*
Motivated by strategic objectives	4.3	0.92	3.2	1.4	5.19	.000*

* <p=.001, **<p=.01, ***<p=.05

Table A5.3d Differences in the Level of Commitment between Successful and Less Successful UK international Strategic Alliances in terms of Perceived Partner Satisfaction with Alliance Performance

Commitment	Successful Group		Less Successful Group		Difference	
	Mean	SD	Mean	SD	T value	Sig
Goals/objectives	4.3	0.93	3.1	1.1	6.23	.000*
Activities performed	3.8	0.82	2.8	0.95	5.60	.000*
Contractual terms	4.0	1.1	3.4	1.1	2.46	.015***
Strategic direction	4.0	0.92	3.0	1.1	5.22	.000*
Resource allocation	3.7	0.99	2.6	0.92	6.16	.000*
Key decisions	3.9	0.97	2.9	0.91	5.82	.000*
Roles/functions	4.0	0.91	3.5	1.0	2.72	.008**
Future plans	3.9	0.93	2.7	0.89	7.20	.000*
Conflict resolution	3.8	0.96	2.8	0.97	5.35	.000*
Daily operations	3.9	1.0	3.1	0.93	4.61	.000*
Loyalty to partnership	4.0	0.97	2.9	1.2	5.53	.000*
Sense of belonging	3.9	1.1	2.9	1.2	4.44	.000*
Identify with goals/objectives	4.1	0.90	3.2	1.2	4.67	.000*
Shared vision	3.9	0.98	2.8	1.2	5.36	.000*
Partnership valuable	4.3	0.97	3.5	1.2	3.79	.000*
Listen to problems	4.4	0.73	3.9	0.89	3.15	.002**
Goal achievement	4.3	0.75	3.9	0.85	2.99	.003**
Overcome problems	4.4	0.69	3.9	0.77	3.45	.001*
Satisfy partner needs	4.1	0.82	3.4	1.1	3.72	.000*
Effort/Investment to build relationship	4.2	0.82	3.5	1.1	4.46	.000*
Patient over mistakes	4.0	0.76	3.5	0.86	3.32	.001*
Compromise to achieve objectives	3.8	0.99	3.3	1.0	2.86	.005**
Motivated by necessity	3.2	1.3	2.4	1.3	3.21	.002**
Motivated by desire	3.9	1.0	3.4	1.2	2.83	.005**
Motivated by long-term gains	3.4	1.0	3.1	0.98	1.81	Ns
Motivated by enjoyment	4.0	0.85	2.9	1.1	5.63	.000*
Motivated by profitability	4.4	0.87	3.2	1.3	5.39	.000*
Motivated by strategic objectives	4.2	1.1	3.3	1.4	3.77	.000*

* p=.001, **p=.01, ***p=.05

4 LEVEL OF TRUST

Proposition 4: The level of trust between partners will be higher for successful UK international strategic alliances compared with less successful international strategic alliances.

Table A5.4a Differences in the Level of Trust between Successful and Less Successful UK international Strategic Alliances in terms of Satisfaction with the Relationship

Trust	Successful Group		Less Successful Group		Difference	
	Mean	SD	Mean	SD	T value	Sig
Level of trust	4.2	0.58	2.8	0.84	10.20	.000*
Trusted to keep promises	4.3	0.69	3.0	0.90	8.4	.001*
Trusted to be sincere	4.3	0.73	3.2	0.80	7.60	.000*
Opportunistic/self centered	2.1	0.94	2.7	0.89	-3.31	.001*
Trusted to be supportive	3.8	0.73	2.7	0.79	7.35	.000*
Trusted to show loyalty	4.0	0.69	2.6	0.89	9.32	.000*
Lack of continuity in teams	2.2	1.0	3.0	1.1	-3.97	.000*
High degree of harmony	3.8	0.66	2.7	0.71	8.22	.000*
Open and informal	3.9	0.76	2.9	0.93	5.85	.000*
Close personal ties	3.7	1.0	3.0	0.95	3.70	.000*
Keep commitments made	4.0	0.66	3.1	0.76	7.32	.000*
Do not take advantage of each other	4.0	0.76	3.0	0.92	6.02	.000*
Can always rely on each other	4.0	0.78	2.7	0.86	8.55	.000*
Share work related problems	3.8	0.87	2.8	0.87	6.30	.000*
Level of confidence in relationship	4.2	0.69	3.1	0.94	7.34	.000*

* p <math>< .001</math>

Table A5.4b Differences in the Level of Trust between Successful and Less Successful UK international Strategic Alliances in terms of Satisfaction with meeting UK firm's Overall Objectives

Trust	Successful Group		Less Successful Group		Difference	
	Mean	SD	Mean	SD	T value	Sig
Level of trust	3.9	0.80	3.2	1.0	4.14	.000*
Trusted to keep promises	3.9	0.90	3.4	1.0	3.11	.002**
Trusted to be sincere	4.0	0.93	3.5	0.86	3.25	.002**
Opportunistic/self centered	2.4	1.0	2.4	0.91	0.04	Ns
Trusted to be supportive	3.6	0.83	2.9	0.88	4.39	.000*
Trusted to show loyalty	3.8	0.85	2.9	1.0	5.31	.000*
Lack of continuity in teams	2.3	1.1	2.8	1.1	-2.02	.046***
High degree of harmony	3.7	0.73	2.9	0.80	5.74	.000*
Open and informal	3.7	0.83	3.1	0.98	3.88	.000*
Close personal ties	3.7	0.99	3.0	0.98	3.77	.000*
Keep commitments made	3.9	0.88	3.3	0.73	4.02	.000*
Do not take advantage of each other	3.7	1.0	3.3	0.88	2.28	.025***
Can always rely on each other	3.9	0.92	2.9	.90	6.11	.000*
Share work related problems	3.7	0.80	2.8	0.98	5.54	.000*
Level of confidence in relationship	4.1	0.85	3.2	0.92	5.43	.000*

* p <math>< .001</math>, ** p <math>< .01</math>, *** p <math>< .05</math>

Table A5.4c Differences in the Level of Trust between Successful and Less Successful UK international Strategic Alliances in terms of Satisfaction with Overall Alliance Performance

Trust	Successful Group		Less Successful Group		Difference	
	Mean	SD	Mean	SD	T value	Sig
Level of trust	4.0	0.75	3.1	1.0	5.38	.000*
Trusted to keep promises	4.1	0.84	3.2	1.0	4.4	.000*
Trusted to be sincere	4.1	0.88	3.4	0.87	3.96	.000*
Opportunistic/self centered	2.3	1.0	2.5	0.90	-1.33	Ns
Trusted to be supportive	3.6	0.81	2.9	0.87	4.92	.000*
Trusted to show loyalty	3.8	0.83	2.9	1.0	5.57	.000*
Lack of continuity in teams	2.3	1.0	2.9	1.2	-2.91	.004***
High degree of harmony	3.7	0.72	2.8	0.77	6.39	.000*
Open and informal	3.8	0.78	3.0	0.96	4.86	.000*
Close personal ties	3.6	1.03	3.0	0.96	3.35	.001*
Keep commitments made	3.9	0.85	3.2	0.74	4.56	.000*
Do not take advantage of each other	3.8	0.94	3.2	0.90	3.35	.001*
Can always rely on each other	3.9	0.85	2.9	0.95	6.39	.000*
Share work related problems	3.8	0.79	2.8	0.94	6.38	.000*
Level of confidence in relationship	4.2	0.84	3.1	0.85	6.58	.000*

* <p=.001, **<p=.01, ***<p=.05

Table A5.4d Differences in the Level of Trust between Successful and Less Successful UK international Strategic Alliances in terms of Perceived Partner Satisfaction with Alliance Performance

Trust	Successful Group		Less Successful Group		Difference	
	Mean	SD	Mean	SD	T value	Sig
Level of trust	4.0	0.81	3.0	0.91	6.07	.000*
Trusted to keep promises	4.0	0.86	3.3	1.0	4.29	.000*
Trusted to be sincere	4.1	0.76	3.3	0.93	5.06	.000*
Opportunistic/self centered	2.2	0.94	2.6	0.94	-2.02	Ns
Trusted to be supportive	3.7	0.78	2.8	0.87	5.41	.000*
Trusted to show loyalty	3.9	0.83	2.8	0.99	6.27	.000*
Lack of continuity in teams	2.3	1.0	2.9	1.2	-3.01	.003**
High degree of harmony	3.8	0.68	2.8	0.75	7.40	.000*
Open and informal	3.7	0.78	3.1	1.0	3.78	.000*
Close personal ties	3.6	1.0	3.0	1.0	3.08	.003**
Keep commitments made	3.9	0.78	3.2	0.77	5.28	.000*
Do not take advantage of each other	3.9	0.83	3.1	0.95	4.41	.000*
Can always rely on each other	4.0	0.76	2.7	0.88	8.55	.000*
Share work related problems	3.7	0.91	2.9	0.93	4.70	.000*
Level of confidence in relationship	4.3	0.66	3.0	0.89	8.43	.000*

* <p=.001, **<p=.01, ***<p=.05

5 COMMUNICATION ATTRIBUTES

- Quality of Information Transmitted

Proposition 5: The quality of information between partners will be greater for successful UK international strategic alliances compared with less successful international strategic alliances.

A5.5a Table Differences in the Quality of Information Transmitted between Successful and Less Successful UK international Strategic Alliances in terms of Satisfaction with the relationship

Information Quality	Successful Group		Less Successful Group		Difference	
	Mean	SD	Mean	SD	T value	Sig
Untimely / Timely	3.9	0.80	3.1	1.1	4.81	.000*
Inaccurate / Accurate	3.9	0.71	3.2	0.92	4.77	.000*
Inadequate / Adequate	3.8	0.90	3.1	0.76	3.84	.000*
Incomplete / Complete	3.8	0.86	3.1	0.81	4.43	.000*
Not Credible / Credible	4.2	0.86	3.2	1.1	5.46	.000*

<p=.001

Table A5.5b Differences in the Quality of Information Transmitted between Successful and Less Successful UK international Strategic Alliances in terms of Satisfaction with meeting UK Firm's Overall Objectives

Information Quality	Successful Group		Less Successful Group		Difference	
	Mean	SD	Mean	SD	T value	Sig
Untimely / Timely	3.9	0.79	3.1	1.1	4.45	.000*
Inaccurate / Accurate	3.9	0.71	3.3	0.95	4.12	.000*
Inadequate / Adequate	3.7	0.91	3.2	0.77	3.46	.001*
Incomplete / Complete	3.7	0.84	3.1	0.83	4.54	.000*
Not Credible / Credible	4.0	0.93	3.3	1.1	3.81	.000*

* <p=.001

Table A5.5c Differences in the Quality of Information Transmitted between Successful and Less Successful UK international Strategic Alliances in terms of Satisfaction with Overall Alliance Performance

Information Quality	Successful Group		Less Successful Group		Difference	
	Mean	SD	Mean	SD	T value	Sig
Untimely / Timely	3.9	0.84	3.1	1.1	4.22	.000*
Inaccurate / Accurate	3.9	0.73	3.2	0.92	4.38	.000*
Inadequate / Adequate	3.7	0.93	3.2	0.74	2.97	.004**
Incomplete / Complete	3.8	0.88	3.1	0.78	4.54	.000*
Not Credible / Credible	4.1	0.90	3.3	1.1	4.02	.000*

* <p=.001, **<p=.01

Table A5.5d Differences in the Quality of Information Transmitted between Successful and Less Successful UK international Strategic Alliances in terms of Perceived Partner Satisfaction with Alliance Performance

Information Quality	Successful Group		Less Successful Group		Difference	
	Mean	SD	Mean	SD	T value	Sig
Untimely / Timely	3.8	0.81	3.1	1.1	3.89	.000*
Inaccurate / Accurate	3.9	0.74	3.2	0.90	4.50	.000*
Inadequate / Adequate	3.8	0.97	3.1	0.66	3.84	.000*
Incomplete / Complete	3.7	0.90	3.1	0.77	4.17	.000*
Not Credible / Credible	4.1	0.92	3.3	1.1	4.30	.000*

* p=.001

- Level of Information Sharing

Proposition 6: There will be a greater level of information sharing between partners for successful UK international strategic alliances compared with less successful international strategic alliances.

Table A5.5e Differences in the Level of Information Sharing between Successful and Less Successful UK international Strategic Alliances in terms of Satisfaction with the Relationship

Level of Information Sharing	Successful Group		Less Successful Group		Difference	
	Mean	SD	Mean	SD	T value	Sig
Share proprietary information	3.8	1.0	2.9	1.1	3.98	.000*
Inform partner of changing needs	4.1	0.73	3.2	0.90	5.64	.000*
Both parties expected to inform each other of changing needs	4.2	0.89	3.6	0.84	3.95	.000*
Hesitate to give information	2.1	1.1	2.9	0.93	-4.29	.000*

* p=.001

Table A5.5f Differences in the Level of Information Sharing between Successful and Less Successful UK international Strategic Alliances in terms of Satisfaction with meeting UK Firm's Overall Objectives

Level of Information Sharing	Successful Group		Less Successful Group		Difference	
	Mean	SD	Mean	SD	T value	Sig
Share proprietary information	3.7	1.1	3.1	1.2	2.76	.007**
Inform partner of changing needs	3.9	0.86	3.4	0.89	3.69	.000*
Both parties expected to inform each other of changing needs	4.3	0.75	3.5	0.92	4.97	.000*
Hesitate to give information	2.2	1.1	2.8	1.0	-3.18	.002**

* p=.001, **p=.01

Table A5.5g Differences in the Level of Information Sharing between Successful and Less Successful UK international Strategic Alliances in terms of Satisfaction with Overall Alliance Performance

Level of Information Sharing	Successful Group		Less Successful Group		Difference	
	Mean	SD	Mean	SD	T value	Sig
Share proprietary information	3.6	1.1	3.1	1.2	2.58	.011***
Inform partner of changing needs	3.9	0.80	3.3	0.95	3.69	.000*
Both parties expected to inform each other of changing needs	4.2	0.87	3.6	0.87	3.69	.000*
Hesitate to give information	2.2	1.1	2.8	1.0	-3.18	.002**

* <p=.001, **<p=.01, ***<p=.05

Table A5.5h Differences in the Level of Information Sharing between Successful and Less Successful UK international Strategic Alliances in terms of Perceived Partner Satisfaction with Alliance Performance

Level of Information Sharing	Successful Group		Less Successful Group		Difference	
	Mean	SD	Mean	SD	T value	Sig
Share proprietary information	3.7	1.1	3.0	1.1	3.60	.000*
Inform partner of changing needs	4.0	0.87	3.3	0.84	4.27	.000*
Both parties expected to inform each other of changing needs	4.2	0.89	3.6	0.86	3.71	.000*
Hesitate to give information	2.1	1.1	2.8	0.99	-3.47	.001*

<p=.001

- **Level of Participation**

Proposition 7: The level of participation in planning and goal setting between partners will be higher for successful UK international strategic alliances compared with less successful international strategic alliances.

Table A5.5i Differences in the Level of Participation between Successful and Less Successful UK international Strategic Alliances in terms of Satisfaction with the Relationship

Participation	Successful Group		Less Successful Group		Difference	
	Mean	SD	Mean	SD	T value	Sig
Participate in goal setting	4.1	0.68	2.7	1.0	8.51	.000*
Participate in planning	3.3	1.2	2.3	1.1	4.32	.000*
Participate in meetings	4.2	0.79	3.8	0.95	2.25	.026***
Seek partner's advice in decision making	3.6	1.0	2.6	1.1	5.07	.000*
Partner seeks advice in making decisions	3.4	1.1	2.2	0.89	6.64	.000*

* <p=.001, ***<p=.05

Table A5.5j Differences in the Level of Participation between Successful and Less Successful UK international Strategic Alliances in terms of Satisfaction with meeting UK Firm's Overall Objectives

Participation	Successful Group		Less Successful Group		Difference	
	Mean	SD	Mean	SD	T value	Sig
Participate in goal setting	3.9	0.99	3.1	1.1	4.14	.000*
Participate in planning	3.1	1.2	2.5	1.2	2.70	.008**
Participate in meetings	4.3	0.66	3.7	1.0	3.18	.002**
Seek partner's advice in decision making	3.7	2.6	0.90	1.2	5.78	.000*
Partner seeks advice in making decisions	3.3	1.0	2.3	1.0	5.37	.000*

* p=.001, **p=.01

Table A5.5k Differences in the Level of Participation between Successful and Less Successful UK international Strategic Alliances in terms of Satisfaction with Overall Alliance Performance

Participation	Successful Group		Less Successful Group		Difference	
	Mean	SD	Mean	SD	T value	Sig
Participate in goal setting	3.9	0.91	3.0	1.1	5.01	.000*
Participate in planning	3.1	1.2	2.5	1.2	2.70	.000*
Participate in meetings	4.3	3.7	0.72	0.97	3.42	.001*
Seek partner's advice in decision making	3.7	0.92	2.6	1.1	5.78	.000*
Partner seeks advice in making decisions	3.3	1.1	2.3	0.93	5.60	.000*

* p=.001

Table A5.5l Differences in the Level of Participation between Successful and Less Successful UK international Strategic Alliances in terms of Perceived Partner Satisfaction with Alliance Performance

Participation	Successful Group		Less Successful Group		Difference	
	Mean	SD	Mean	SD	T value	Sig
Participate in goal setting	4.1	0.83	2.8	1.0	6.92	.000*
Participate in planning	3.2	1.1	2.4	1.2	3.24	.002**
Participate in meetings	4.2	0.80	3.8	0.93	2.71	.008**
Seek partner's advice in decision making	3.5	1.1	2.8	1.1	3.28	.001*
Partner seeks advice in making decisions	3.2	1.2	2.4	0.96	4.34	.000*

* p=.001, **p=.01

6 LEVEL OF CONFLICT

Proposition 8: There will be less conflict between partners for successful UK international strategic alliances compared with less successful international strategic alliances.

Table A5.6a Differences in the Level of Conflict between Successful and Less Successful UK International Strategic Alliances in terms of Performance in terms of Satisfaction with the Relationship

Conflict	Successful Group		Less Successful Group		Difference	
	Mean	SD	Mean	SD	T value	Sig
Level of disagreements	2.3	0.58	2.9	0.86	-4.57	.000*
Avoid the issue	1.9	0.93	2.4	0.88	-2.87	.005***
Smooth over the issue	2.8	0.98	3.2	0.91	-1.88	.062***
Assertive and domineering	2.3	0.97	2.5	1.0	-1.24	Ns
Persuasion	3.8	0.96	3.7	0.83	0.66	Ns
Joint problem solving	4.0	0.75	3.2	0.85	4.98	.000*
Outside arbitration	1.2	0.72	1.2	0.55	-0.20	Ns
Degree of conflict	2.0	0.90	3.0	0.93	-5.82	.000*
Poor communications	2.9	1.1	3.1	0.95	-.90	Ns
Distrust	1.8	0.90	2.7	0.91	-5.53	.000*
Conflicting goals	2.6	1.2	3.3	1.2	-3.39	.001*
Personality Conflicts	2.4	1.2	2.8	1.0	-2.07	.041***
Cultural misunderstandings	2.8	1.2	3.4	1.2	-2.67	.009***
Language difficulties	1.9	1.1	1.9	1.1	-0.13	Ns

* p=.001, **p=.01, ***p=.05

Table A5.6b Differences in the Level of Conflict between Successful and Less Successful UK International Strategic Alliances in terms of Performance in terms of Satisfaction with meeting UK Firm's Overall Objectives

Conflict	Successful Group		Less Successful Group		Difference	
	Mean	SD	Mean	SD	T value	Sig
Level of disagreements	2.4	0.64	2.8	0.88	-2.72	.008***
Avoid the issue	2.0	0.96	2.3	0.88	-1.98	.050***
Smooth over the issue	2.9	0.97	3.0	0.94	-0.88	Ns
Assertive and domineering	2.3	1.1	2.4	0.94	-0.60	Ns
Persuasion	3.8	0.99	3.8	0.80	-0.22	Ns
Joint problem solving	3.9	0.71	3.3	0.92	4.31	.000*
Outside arbitration	1.3	0.73	1.2	0.52	0.45	Ns
Degree of conflict	2.2	0.96	2.8	1.0	-3.59	.000*
Poor communications	2.8	1.1	3.2	0.98	-2.00	.048***
Distrust	2.0	0.97	2.4	1.0	-2.14	.034***
Conflicting goals	2.5	1.2	3.3	1.2	-3.57	.001*
Personality Conflicts	2.4	1.2	2.8	0.95	-1.97	.052***
Cultural misunderstandings	2.7	1.2	3.4	1.2	-2.99	.003***
Language difficulties	1.8	1.0	2.0	1.2	-0.97	Ns

* p=.001, **p=.01, ***p=.05

Table A5.6c Differences in the Level of Conflict between Successful and Less Successful UK International Strategic Alliances in terms of Performance in terms of Satisfaction with Overall Alliance Performance

Conflict	Successful Group		Less Successful Group		Difference	
	Mean	SD	Mean	SD	T value	Sig
Level of disagreements	2.3	0.62	2.9	0.85	-4.10	.000*
Avoid the issue	1.9	0.90	2.4	0.91	-2.84	.005***
Smooth over the issue	2.8	1.0	3.2	0.86	-2.09	.039***
Assertive and domineering	2.3	1.0	2.5	0.98	-0.98	Ns
Persuasion	3.8	0.98	3.7	0.81	0.82	Ns
Joint problem solving	3.9	0.82	3.3	0.84	3.79	.000*
Outside arbitration	1.3	0.73	1.2	0.52	0.45	Ns
Degree of conflict	2.0	0.74	3.0	1.0	-6.23	.000*
Poor communications	2.9	1.1	3.1	1.0	-0.90	Ns
Distrust	1.8	0.87	2.6	1.0	-4.02	.000*
Conflicting goals	2.5	1.2	3.4	1.2	-3.92	.000*
Personality Conflicts	2.4	1.2	2.8	1.0	-2.32	.022***
Cultural misunderstandings	2.7	1.2	3.4	1.2	-2.82	.006**
Language difficulties	1.8	0.97	2.1	1.3	-1.14	Ns

* <p=.001, **<p=.01, ***<p=.05

Table A5.6d Differences in the Level of Conflict between Successful and Less Successful UK International Strategic Alliances in terms of Performance in terms of Perceived Partner Satisfaction with Alliance Performance

Conflict	Successful Group		Less Successful Group		Difference	
	Mean	SD	Mean	SD	T value	Sig
Level of disagreements	2.2	0.56	2.9	0.83	-5.54	.000*
Avoid the issue	1.9	0.99	2.4	0.83	-2.43	.016***
Smooth over the issue	3.0	1.0	3.0	0.87	-0.48	Ns
Assertive and domineering	2.2	0.93	2.6	1.0	-2.60	.011***
Persuasion	3.8	0.98	3.8	0.81	-0.17	Ns
Joint problem solving	3.9	0.73	3.3	0.90	4.15	.000*
Outside arbitration	1.3	0.76	1.2	0.47	0.97	Ns
Degree of conflict	2.0	0.88	3.0	0.91	-6.37	.000*
Poor communications	2.8	1.1	3.3	0.92	-2.39	.019***
Distrust	1.8	0.85	2.7	0.97	-5.27	.000*
Conflicting goals	2.5	1.1	3.4	1.2	-4.47	.000*
Personality Conflicts	2.2	1.1	3.0	0.99	-3.93	.000*
Cultural misunderstandings	2.7	1.2	3.5	1.2	-3.52	.001*
Language difficulties	2.0	1.1	1.9	1.2	0.37	Ns

* <p=.001, ***<p=.05

7 STRUCTURE

• Formalization

Proposition 9: Successful UK international strategic alliances will be less formalized in their approach to managing activities and relationships compared to less successful international strategic alliances.

Table A5.7a Differences in the Formalization of Activities between Successful and Less Successful UK International Strategic Alliances in terms of Satisfaction with the Relationship

Formalization	Successful Group		Less Successful Group		Difference	
	Mean	SD	Mean	SD	T value	Sig
Written documents detail tasks	3.2	1.2	3.3	1.1	-0.20	Ns
Informal understanding	3.1	1.2	2.8	1.2	1.42	Ns
Specific terms/conditions	3.3	1.1	3.3	0.93	0.10	Ns

Table A5.7b Differences in the Formalization of Activities between Successful and Less Successful UK International Strategic Alliances in terms of Satisfaction with meeting UK Firm's Overall Objectives

Formalization	Successful Group		Less Successful Group		Difference	
	Mean	SD	Mean	SD	T value	Sig
Written documents detail tasks	3.4	1.2	3.0	1.1	1.82	Ns
Informal understanding	3.0	1.2	3.0	1.2	0.01	Ns
Specific terms/conditions	3.5	1.1	3.2	0.98	1.44	Ns

Table A5.7c Differences in the Formalization of Activities between Successful and Less Successful UK International Strategic Alliances in terms of Satisfaction with Overall Alliance Performance

Formalization	Successful Group		Less Successful Group		Difference	
	Mean	SD	Mean	SD	T value	Sig
Written documents detail tasks	3.4	1.2	3.0	1.0	1.99	.049***
Informal understanding	2.9	1.2	3.1	1.2	-0.62	Ns
Specific terms/conditions	3.5	1.1	3.1	0.96	2.20	.030***

*** $p < .05$

TableA5.7d Differences in the Formalization of Activities between Successful and Less Successful UK International Strategic Alliances in terms of Perceived Partner Satisfaction with Alliance Performance

Formalization	Successful Group		Less Successful Group		Difference	
	Mean	SD	Mean	SD	T value	Sig
Written documents detail tasks	3.4	1.2	3.1	1.1	1.44	Ns
Informal understanding	3.1	1.2	2.8	1.2	1.27	Ns
Specific terms/conditions	3.4	1.0	3.2	1.0	1.01	Ns

• Centralization

Proposition 10: Successful UK international strategic alliances will be less centralized in their activities and relationships compared to less successful international strategic alliances.

TableA5.7e Differences in the Centralization of Activities and Relationships between Successful and Less Successful UK International Strategic Alliances in terms of Satisfaction with the Relationship

Centralization	Successful Group		Less Successful Group		Difference	
	Mean	SD	Mean	SD	T value	Sig
All information channelled	3.1	1.4	3.4	1.3	-0.98	Ns
Contact through alliance managers	3.1	1.5	3.1	1.2	0.01	Ns
Both parties participate in decisions	3.9	0.95	2.9	0.98	5.97	.000*

<p>.001

TableA5.7f Differences in the Centralization of Activities and Relationships between Successful and Less Successful UK International Strategic Alliances in terms of Satisfaction with meeting UK Firm's Overall Objectives

Centralization	Successful Group		Less Successful Group		Difference	
	Mean	SD	Mean	SD	T value	Sig
All information channelled	3.1	1.4	3.3	1.4	-0.81	Ns
Contact through alliance managers	3.8	1.4	3.3	1.2	-0.95	Ns
Both parties participate in decisions	3.9	0.95	2.9	1.1	5.09	.000*

<p>.001

Table A5.7g Differences in the Centralization of Activities and Relationships between Successful and Less Successful UK International Strategic Alliances in terms of Satisfaction with Overall Alliance Performance

Centralization	Successful Group		Less Successful Group		Difference	
	Mean	SD	Mean	SD	T value	Sig
All information channelled	3.2	1.4	3.2	1.4	0.01	Ns
Contact through alliance managers	3.1	1.4	3.1	1.3	-0.11	Ns
Both parties participate in decisions	3.9	0.98	2.9	0.96	5.81	.000*

<p=.001

Table A5.7h Differences in the Centralization of Activities and Relationships between Successful and Less Successful UK International Strategic Alliances in terms of Perceived Partner Satisfaction with Alliance Performance

Centralization	Successful Group		Less Successful Group		Difference	
	Mean	SD	Mean	SD	T value	Sig
All information channelled	3.3	1.4	3.1	1.3	0.53	Ns
Contact through alliance managers	3.2	1.4	3.1	1.3	0.29	Ns
Both parties participate in decisions	3.8	1.1	3.1	1.1	3.52	.001*

* <p=.001

- Complexity

Proposition 11: Successful UK international strategic alliances will have simpler levels of organizational arrangements compared to less successful international strategic alliances.

Table A5.7i Differences in Organization Arrangements between Successful and Less Successful UK International Strategic Alliances in terms of Satisfaction with the Relationship

Complexity	Successful Group		Less Successful Group		Difference	
	Mean	SD	Mean	SD	T value	Sig
Complex / Simple	3.3	1.4	3.1	1.1	1.17	Ns
Flexible / Inflexible	2.9	1.2	3.1	0.79	-1.50	Ns
Hierarchical / Informal	3.1	1.1	2.9	1.0	0.93	Ns

Table A5.7j Differences in Organization Arrangements between Successful and Less Successful UK International Strategic Alliances in terms of Satisfaction with meeting UK Firm's Overall Objectives

Complexity	Successful Group		Less Successful Group		Difference	
	Mean	SD	Mean	SD	T value	Sig
Complex / Simple	3.1	1.3	3.3	1.2	-0.72	Ns
Flexible / Inflexible	2.9	1.1	3.1	0.94	-1.12	Ns
Hierarchical / Informal	3.1	1.1	3.0	1.1	0.59	Ns

Table A5.7k Differences in Organization Arrangements between Successful and Less Successful UK International Strategic Alliances in terms of Satisfaction with Overall Alliance Performance

Complexity	Successful Group		Less Successful Group		Difference	
	Mean	SD	Mean	SD	T value	Sig
Complex / Simple	3.3	1.3	3.1	1.2	0.60	Ns
Flexible / Inflexible	2.9	1.1	3.1	0.86	-1.31	Ns
Hierarchical / Informal	3.1	1.1	3.0	1.1	0.42	Ns

Table A5.7l Differences in Organization Arrangements between Successful and Less Successful UK International Strategic Alliances in terms of Perceived Partner Satisfaction with Alliance Performance

Complexity	Successful Group		Less Successful Group		Difference	
	Mean	SD	Mean	SD	T value	Sig
Complex / Simple	3.3	1.3	3.1	1.2	0.87	Ns
Flexible / Inflexible	2.9	1.0	3.1	0.99	-0.75	Ns
Hierarchical / Informal	3.1	1.1	2.9	1.0	0.93	Ns

8 CONTROL

• Focus of Control

Proposition 12: UK international strategic alliance partners that seek to focus their influence over particular alliance activities, rather than control all activities will be more successful.

Table A5.8a Differences in Focus of Control between Successful and Less Successful UK International Strategic Alliances in terms of Satisfaction with the Relationship

Control Focus	Successful Group		Less Successful Group		Difference	
	Mean	SD	Mean	SD	T value	Sig
Financial Activities	2.9	1.1	3.0	0.83	-0.44	Ns
Marketing / Sales	3.1	0.98	3.0	1.2	0.49	Ns
Quality Control	2.7	1.1	2.9	1.1	-1.08	Ns
Pricing Policy	2.9	1.0	3.1	1.2	-1.00	Ns
Distribution Facilities	3.0	1.1	3.1	1.2	-0.41	Ns
Customer Support	2.8	1.2	2.8	1.2	0.08	Ns
Manpower Management	2.9	1.2	2.8	1.2	0.41	Ns

Table A5.8b Differences in Focus of Control between Successful and Less Successful UK International Strategic Alliances in terms of Satisfaction with meeting UK Firm's Overall Objectives

Control Focus	Successful Group		Less Successful Group		Difference	
	Mean	SD	Mean	SD	T value	Sig
Financial Activities	3.0	1.0	2.8	1.0	1.07	Ns
Marketing / Sales	3.2	1.1	2.8	1.1	1.88	Ns
Quality Control	2.9	1.1	2.8	1.2	0.56	Ns
Pricing Policy	3.1	0.94	2.8	1.2	1.37	Ns
Distribution Facilities	3.2	1.1	2.8	1.2	1.71	Ns
Customer Support	3.1	1.1	2.5	1.3	2.41	.018***
Manpower Management	2.9	1.2	2.7	1.1	1.03	Ns

*** $p < .05$

Table A5.8c Differences in Focus of Control between Successful and Less Successful UK International Strategic Alliances in terms of Satisfaction with Overall Alliance Performance

Control Focus	Successful Group		Less Successful Group		Difference	
	Mean	SD	Mean	SD	T value	Sig
Financial Activities	3.0	1.1	2.9	0.89	0.88	Ns
Marketing / Sales	3.2	1.1	2.8	1.1	1.88	Ns
Quality Control	2.9	1.1	2.7	1.1	0.72	Ns
Pricing Policy	3.0	0.95	3.0	1.3	0.01	.003**
Distribution Facilities	3.2	1.1	2.8	1.2	1.55	Ns
Customer Support	3.0	1.2	2.7	1.2	1.44	Ns
Manpower Management	2.9	1.1	2.7	1.2	1.03	Ns

*** $p < .05$

Table A5.8d Differences in Focus of Control between Successful and Less Successful UK International Strategic Alliances in terms of Perceived Partner Satisfaction with Alliance Performance

Control Focus	Successful Group		Less Successful Group		Difference	
	Mean	SD	Mean	SD	T value	Sig
Financial Activities	3.0	0.97	2.8	1.0	1.08	Ns
Marketing / Sales	3.2	1.0	2.9	1.2	1.17	Ns
Quality Control	2.7	1.1	2.9	1.1	-1.06	Ns
Pricing Policy	3.0	0.97	2.9	1.2	0.70	Ns
Distribution Facilities	3.2	1.1	2.8	1.2	1.55	Ns
Customer Support	2.9	1.1	2.8	1.3	0.54	Ns
Manpower Management	2.8	1.2	2.9	1.2	-0.40	Ns

- Mechanism of Control

Proposition 13: UK international strategic alliance partners that use positive control mechanisms as opposed to negative control mechanisms to monitor alliance activities are more successful.

Table A5.8e Differences in Mechanism of Control between Successful and Less Successful UK International Strategic Alliances in terms of Satisfaction with the Relationship

Control Mechanism	Successful Group		Less Successful Group		Difference	
	Mean	SD	Mean	SD	T value	Sig
Board of Directors	3.7	1.5	3.1	1.5	2.17	.032***
Power of Veto	1.7	1.0	2.0	1.3	-1.58	Ns
Equity Ownership	2.7	1.5	2.6	1.4	0.33	Ns
Contractual Formal Agreement	3.1	1.3	3.6	1.1	-2.15	.034***
Technical Superiority	2.2	1.2	2.1	1.2	0.39	Ns
Management Skills	3.2	0.97	3.0	1.2	0.73	Ns
Involvement in Planning Process	3.7	0.90	3.2	1.0	2.59	.011***
Regular reporting on Performance	4.0	0.85	3.6	1.0	2.65	.009***
Teamwork Culture	3.9	0.97	2.9	1.2	4.58	.000*
Appointment of Key Personnel	3.7	1.3	3.5	1.2	1.07	Ns
Informal / Formal Contacts	4.3	0.77	3.7	1.1	3.67	.000*

* p=.001, ***p=.05

Table A5.8f Differences in Mechanism of Control between Successful and Less Successful UK International Strategic Alliances in terms of Satisfaction with meeting UK Firm's Overall Objectives

Control Mechanism	Successful Group		Less Successful Group		Difference	
	Mean	SD	Mean	SD	T value	Sig
Board of Directors	3.8	1.3	3.0	1.6	3.04	.003**
Power of Veto	1.7	0.97	2.0	1.3	-1.43	Ns
Equity Ownership	2.8	1.5	2.5	1.4	1.19	Ns
Contractual Formal Agreement	3.3	1.2	3.3	1.3	-0.09	Ns
Technical Superiority	2.3	1.3	2.0	1.1	1.37	Ns
Management Skills	3.2	0.97	3.1	1.2	0.57	Ns
Involvement in Planning Process	3.7	0.82	3.2	1.2	2.89	.005***
Regular reporting on Performance	4.0	0.88	3.6	0.98	2.61	.010**
Teamwork Culture	3.7	1.1	3.1	1.2	2.76	.007**
Appointment of Key Personnel	3.9	1.3	3.3	1.2	2.24	.027***
Informal / Formal Contacts	4.1	0.90	3.9	1.0	0.97	Ns

p=.01, *p=.05

Table A5.8g Differences in Mechanism of Control between Successful and Less Successful UK International Strategic Alliances in terms of Satisfaction with Overall Alliance Performance

Control Mechanism	Successful Group		Less Successful Group		Difference	
	Mean	SD	Mean	SD	T value	Sig
Board of Directors	3.7	1.4	3.2	1.5	1.97	Na
Power of Veto	1.6	0.93	2.1	1.3	-2.64	.009**
Equity Ownership	2.7	1.4	2.5	1.5	0.80	Na
Contractual Formal Agreement	3.3	1.2	3.3	1.3	-.09	Na
Technical Superiority	2.3	1.3	2.1	1.1	1.05	Na
Management Skills	3.2	0.92	3.0	1.2	1.28	Na
Involvement in Planning Process	3.7	0.80	3.2	1.1	2.68	.009**
Regular reporting on Performance	4.0	0.87	3.6	0.99	2.39	.018***
Teamwork Culture	3.9	1.0	2.9	1.1	4.67	.000*
Appointment of Key Personnel	3.8	1.3	3.4	1.2	1.77	Na
Informal / Formal Contacts	4.1	0.98	3.9	0.96	1.16	Na

* p=.001, **p=.01, ***p=.05

Table A5.8h Differences in Focus of Control between Successful and Less Successful UK International Strategic Alliances in terms of Perceived Partner Satisfaction with Alliance Performance

Control Mechanism	Successful Group		Less Successful Group		Difference	
	Mean	SD	Mean	SD	T value	Sig
Board of Directors	3.6	1.5	3.3	1.5	1.27	Na
Power of Veto	1.5	0.87	2.2	1.3	-3.35	.001**
Equity Ownership	2.6	1.5	2.7	1.4	-0.31	Na
Contractual Formal Agreement	3.1	1.3	3.5	1.2	-1.67	Na
Technical Superiority	2.4	1.2	2.0	1.1	1.82	Na
Management Skills	3.3	0.90	2.9	1.2	1.80	Na
Involvement in Planning Process	3.6	0.95	3.3	1.0	1.38	Na
Regular reporting on Performance	4.1	0.91	3.5	0.93	3.09	.003**
Teamwork Culture	3.7	1.0	3.1	1.2	3.04	.003**
Appointment of Key Personnel	3.7	1.4	3.5	1.1	0.77	Na
Informal / Formal Contacts	4.1	0.96	3.9	0.98	0.97	Na

**p=.01

- **Extent of Control**

Proposition 14: Successful UK international strategicalliances are those in which the management of the alliance is shared compared to less successful international strategic alliances.

Table A5.8i Differences in Extent of Control between Successful and Less Successful UK International Strategic Alliances in terms of Satisfaction with the Relationship

Extent of Control	Successful Group		Less Successful Group		Difference	
	Mean	SD	Mean	SD	T value	Sig
Overall Control	3.1	0.72	2.7	0.89	2.04	.044***

***<p=.05

Table A5.8j Differences in Extent of Control between Successful and Less Successful UK International Strategic Alliances in terms of Satisfaction with meeting UK Firm's Overall Objectives

Extent of Control	Successful Group		Less Successful Group		Difference	
	Mean	SD	Mean	SD	T value	Sig
Overall Control	3.0	0.74	2.8	0.90	0.84	Na

Table A5.8k Differences in Extent of Control between Successful and Less Successful UK International Strategic Alliances in terms of Satisfaction with Overall Alliance Performance

Extent of Control	Successful Group		Less Successful Group		Difference	
	Mean	SD	Mean	SD	T value	Sig
Overall Control	3.0	0.79	2.8	0.85	1.31	Na

Table A5.81 Successful UK International Strategic Alliances in terms of Perceived Partner Satisfaction with Alliance Performance

Extent of Control	Successful Group		Less Successful Group		Difference	
	Mean	SD	Mean	SD	T value	Sig
Overall Control	3.1	0.72	2.7	0.89	2.04	.044***

***p=.05

9 MULTIVARIATE DISCRIMINANT ANALYSIS FOR SATISFACTION WITH THE RELATIONSHIP

In this section MDA is reported for differences between successful and less successful UK international strategic alliances in terms of alliance satisfaction.

Table A5.9a Summary of Variables Entered / Removed into the Discriminant Analysis for Satisfaction with the Relationship

Step	Dimension	Variables Entered	Variables Removed	Wilks' Lambda	Sig
1	Trust	Partner trusted to show loyalty		86.944	.000
2	Participation	Participation in goal setting		61.085	.000
3	Trust	Partner trusted to keep promises		47.002	.000
4	Interdependence	Dependency on administrative support		40.689	.000
5	Commitment	Agreement on daily operations		36.568	.000
6	Complexity	Organization flexible/ inflexible		32.289	.000
7	Formalization	Information channelled through designated office		29.218	.000
8	Information sharing	Share proprietary information		27.012	.000
9	Commitment	Compromise to achieve mutual objectives		25.267	.000
10	Control mechanism	Teamwork culture		24.307	.000
11	Interdependence	Dependency on market information		23.477	.000
12	Participation	Participation in regular meetings		22.397	.000
13	Control mechanism	Power of veto		21.422	.000
14	Trust	High degree of harmony		20.682	.000
15	Coordination	Partner firm integrated		20.035	.000
16	Trust	We can rely on each other		19.528	.000
17	Participation	Seek partners advice		19.043	.000
18	Commitment	Agreement on key decisions		18.735	.000
19	Commitment	Agreement on conflict resolution		18.815	.000
20	Conflict	Avoid issue		18.507	.000
21	Interdependence	Dependency on sales/profits		18.181	.000
22	Coordination	Partner activities an extension of our activities		18.445	.000
23	Commitment	Agreement on future plans		18.711	.000
24	Trust	Partner trusted to be sincere		18.720	.000
25	Conflict	Persuasion		18.818	.000
26	Commitment	Motivated by desire		18.567	.000
27	Commitment	Identify with goals and objectives		18.441	.000
28	Conflict	Cultural misunderstandings		18.165	.000
29	Participation	Joint decision-making		18.143	.000
30	Complexity	Organization hierarchical/informal		18.186	.000
31	Commitment	Overcome problems as they arise		18.207	.000
32			Variable 13	18.991	.000
33	Interdependence	Dependency on marketing capability		18.964	.000
34	Conflict	Personality conflicts		18.804	.000
35	Information sharing	Hesitate to give too much information		18.601	.000
36	Trust	We do not take advantage of each other		18.460	.000
37	Commitment	Agreement on roles performed		18.333	.000
38	Commitment	Agreement on strategic direction		18.135	.000
39	Commitment	Agreement on goals/objectives of alliance		17.940	.000
40			Variable 1	18.571	.000
41	Trust	Relationship is open and informal		18.418	.000
42	Commitment	Strong sense of belonging to alliance		18.209	.000
43	Control mechanism	Board of directors		18.051	.000
44	Coordination	UK firm integrated with partner		18.056	.000
45			Variable 30	18.647	.000
46	Control mechanism	Formal/informal contact		18.486	.000

Table A5.9a (continued) Summary of Variables Entered / Removed into the Discriminant Analysis for Satisfaction with the Relationship

Step	Dimension	Variables Entered	Variables Removed	Wilks' Lambda	Sig
47	Control mechanism	Equity ownership		18.441	.000
48	Conflict	Assertive and dominant		18.450	.000
49			Variable 16	19.044	.000
50			Variable 15	19.692	.000
51	Trust	Close personal ties between partners		19.573	.000
52			Variable 31	20.287	.000
53	Commitment	Shared vision and understanding		20.327	.000
54	Commitment	Motivated to achieve strategic objectives		20.103	.000
55	Interdependence	Switch partner		20.108	.000
56	Control focus	Control over customer support		19.800	.000
57	Control focus	Control over distribution facilities		19.868	.000
58	Coordination	Coordinated by a regular exchange of ideas		19.637	.000
59	Coordination	Teamwork with partner		19.580	.000
60	Commitment	Strong sense of loyalty to partnership		19.610	.000
61			Variable 10	20.283	.000
62	Commitment	Partnership is valuable		20.889	.000
63	Interdependence	Dependency on manufacturing capability		21.216	.000
64	Commitment	Agreement on contractual terms		21.688	.000
65			Variable 6	22.367	.000
66	Trust	Share work related problems		22.694	.000
67	Control focus	Control over quality control		22.905	.000
68			Variable 51	23.567	.000
69	Conflict	Arbitration		23.639	.000
70	Commitment	Enjoy the relationship		23.853	.000
71			Variable 24	24.674	.000
72	Complexity	Organization flexible/inflexible		24.631	.000
73	Commitment	Listen to partner problems		24.747	.000
74	Commitment	Help to build the relationship		24.652	.000
75	Control focus	Technological superiority		24.652	.000
76	Coordination	Inform partner of important decisions		24.476	.000
77			Variable 29	24.344	.000
78	Commitment	Motivated by profitability		25.068	.000
79	Extent of control	Overall control		24.729	.000
80			Variable 5	24.630	.000
81	Control mechanism	Control over financial activities		25.378	.000
82			Variable 26	25.615	.000
83	Interdependence	Dependency on customer services		26.321	.000
84	Commitment	Agreement on resource allocation		26.104	.000
85	Control mechanism	Regular reporting on performance		26.299	.000
86			Variable 57	26.166	.000
87	Formalization	Partnership based on informal understanding		26.927	.000
88	Commitment	Try to satisfy partner needs		26.955	.000
89			Variable 74	26.689	.000
90	Conflict	Joint problem solving		27.465	.000
91	Commitment	Agreement on daily operations		27.301	.000
92	Trust	Partner trusted to show loyalty		27.101	.000
93	Interdependence	Dependency on management skills		26.876	.000
94	Information sharing	Inform partner of changing needs		26.821	.000
95	Conflict	Degree of conflict		26.607	.000
96	Control mechanism	Appointment of personnel		26.427	.000
97			Variable 66	27.165	.000
98			Variable 17	28.138	.000
99	Trust	Partner trusted to be supportive		29.103	.000
100			Variable 28	28.954	.000
101	Commitment	Agreement on activities performed		29.818	.000
102	Interdependence	Dependency on technological expertise		29.714	.000
103	Coordination	Partner firm integrated with ours		29.578	.000
104	Formalization	Detailed tasks and activities		29.695	.000
105	Complexity	Organization hierarchical/ informal		29.937	.000
106	Control focus	Control over marketing sales		29.907	.000

Table A5.9a (continued) Summary of Variables Entered / Removed into the Discriminant Analysis for Satisfaction with the Relationship

Step	Dimension	Variables Entered	Variables Removed	Wilks' Lambda	Sig
107	Coordination	High level of interaction between managers		29.511	.000
108			Variable 55	29.186	.000
109			Variable 14	29.991	.000
110	Trust	Partner trusted to be supportive		30.802	.000
111	Trust	We can rely on each other		30.807	.000
112			Variable 99	30.906	.000
113	Participation	Partner seeks advice		31.867	.000
114			Variable 106	32.169	.000
115			Variable 33	33.209	.000
116	Conflict	Smooth over issue		34.233	.000
117	Formalization	Specific terms and conditions of agreement		34.096	.000
118	Control mechanism	Involvement in planning process		33.740	.000
119	Control focus	Control over distribution facilities		33.368	.000
120	Commitment	Patient with partner when mistakes made		33.191	.000
121			Variable 96	32.807	.000
122	Interdependence	Switch partner		33.773	.000
123			Variable 9	33.476	.000
124			Variable 54	34.711	.000
125	Control mechanism	Contractual formal agreement		35.811	.000

Table A5.9b Canonical Discriminant Functions (Satisfaction with the Relationship)

Discriminant Function	Eigenvalue	Canonical Correlation	Wilks' Lambda	Chi-square	Df	Significance
1	42.284	0.954	0.023	295.772	67	.000

Table A5.9c Classification Results : Full Original Sample Predicted Group Membership (Satisfaction with the Relationship)

Actual Group	Number of Cases	Predicted Group Membership		% of Cases Correctly Classified
		Successful alliances	Less Successful Alliances	
Successful Alliances	60	60 (100%)	0(0)	100.0%
Less Successful Alliances	54	0(0)	54 (100%)	
Total	114	60	54	

Table A5.9d Classification Results : Validated Sample Predicted Group Membership (Satisfaction with the Relationship)

Actual Group	Number of Cases	Predicted Group Membership		Prior Probability	% of Cases Above Cprop	% of Cases Correctly Classified
		Successful Alliances	Less Successful Alliances			
Successful Alliances	60	60 (100%)	0 (0)	.52	50.87	100.0%
Less Successful Alliances	54	0 (0)	54 (100%)	.47		
Total	114	60	54			

Table A5.9e Summary Results of Discriminant Analysis (Satisfaction with the Relationship)

Dimension	Behavioural and Organizational Characteristics	Successful Group		Less Successful Group		F	P	Discriminant Loading
		Mean	SD	Mean	SD			
Trust	Partner trusted to show loyalty	4.03	0.69	2.65	0.89	86.944	.000	0.11
Trust	We can rely on each other	4.03	0.78	2.72	0.86	73.186	.000	0.10
Participation	Participation in goal setting	4.13	0.68	2.74	1.05	72.367	.000	0.10
Participation	Participation in planning activities	3.25	1.16	2.31	1.15	18.697	.000	0.10
Trust	Partner trusted to keep promises	4.27	0.69	3.02	0.90	70.126	.000	0.10
Coordination	Teamwork with partner	4.07	0.84	2.76	0.93	62.109	.000	0.10
Commitment	Enjoy the relationship	4.07	0.78	2.81	0.97	58.085	.000	0.10
Trust	Partner trusted to be sincere	4.25	0.73	3.17	0.80	57.696	.000	0.10
Commitment	Agreement on daily operations	4.08	0.77	2.89	0.98	52.858	.000	0.10
Participation	Partner seeks advice	3.40	1.08	2.17	0.88	44.058	.000	0.08
Commitment	Agreement on conflict resolution	3.85	0.88	2.74	0.97	40.791	.000	0.08
Trust	We don't take advantage of each other	3.97	0.76	3.02	0.92	36.262	.000	0.07
Commitment	Strong sense of loyalty to partner	4.07	0.97	2.89	1.13	35.879	.000	0.07
Commitment	Agreement on goals/objectives of alliance	4.28	0.90	3.13	1.15	35.822	.000	0.07
Trust	Relationship is open and informal	3.85	0.76	2.93	0.93	34.253	.000	0.07
Conflict	Degree of conflict	2.00	0.90	3.00	0.93	33.863	.000	-0.07
Coordination	Exchange of ideas between partners	4.10	0.88	3.06	1.05	33.314	.000	0.07
Coordination	Keep partner informed of important decisions	4.22	0.88	3.28	0.88	32.247	.000	0.07
Information sharing	Inform partner of changing needs	4.07	0.73	3.20	0.90	31.822	.000	0.07
Commitment	Agreement on activities performed	3.80	0.82	2.87	0.95	31.370	.000	0.07
Commitment	Agreement on future plans	3.80	0.95	2.78	1.00	31.105	.000	0.07
Commitment	Strong sense of belonging to partnership	3.95	1.08	2.83	1.09	29.990	.000	0.06
Commitment	Motivated by profitability	4.40	0.94	3.30	1.24	29.011	.000	0.06
Commitment	Agreement on key decisions	3.87	1.07	2.91	0.83	28.308	.000	0.06
Commitment	Agreement on strategic direction	4.03	0.90	3.04	1.12	27.750	.000	0.06
Commitment	Shared vision and understanding	3.90	1.07	2.85	1.11	26.450	.000	0.06
Conflict	Joint problem solving	3.98	0.75	3.24	0.85	24.774	.000	0.06
Commitment	Agreement on resource allocation	3.63	1.06	2.74	0.96	22.187	.000	0.06
Coordination	High level of interaction between managers	3.87	1.13	2.91	1.12	20.704	.000	0.05
Commitment	Agreement on roles performed	4.08	0.83	3.31	0.99	20.384	.000	0.05
Information sharing	Hesitate to give too much information	2.07	1.10	2.89	0.92	18.382	.000	-0.05
Commitment	Partnership is valuable	4.30	1.01	3.44	1.14	17.932	.000	0.05
Commitment	Agreement on contractual terms	4.10	1.00	3.28	1.09	17.605	.000	0.05
Commitment	Identify with goals and objectives	4.05	1.05	3.22	1.13	16.501	.000	0.05
Information sharing	Share proprietary information	3.77	1.03	2.94	1.17	15.874	.000	0.05
Commitment	Try to satisfy partner needs	4.12	0.87	3.43	1.00	15.595	.000	0.05

Table A5.9e (continued) Summary Results of Discriminant Analysis (Satisfaction with the Relationship)

Dimension	Behavioural and Organizational Characteristics	Successful Group		Less Successful Group		F	P	Discriminant Loading
		Mean	SD	Mean	SD			
Control mechanism	Formal/informal contact	4.30	0.77	3.67	1.06	13.497	.000	0.04
Coordination	UK firm integrated with partner	2.93	1.27	2.17	0.91	13.438	.000	0.04
Commitment	Try to listed to problems	4.38	0.69	3.83	0.91	13.433	.000	0.04
Interdependence	Switch partner	1.67	1.08	2.43	1.27	11.874	.001	0.04
Commitment	Partner with partner over mistakes made	3.95	0.75	3.48	0.88	9.400	.003	-0.04
Coordination	Partner firm integrated with ours	2.95	1.25	2.30	1.02	9.184	.003	0.04
Conflict	Cultural misunderstandings	2.77	1.17	3.37	1.25	7.103	.009	0.04
Control mechanism	Regular reporting on performance	4.02	0.85	3.56	1.00	7.027	.009	-0.03
Control mechanism	Involvement in planning process	3.67	0.90	3.20	1.02	6.683	.011	0.03
Participation	Participation in regular meetings	4.18	0.79	3.81	0.95	5.078	.026	0.03
Coordination	Partner activities an extension of ours	3.12	1.25	2.56	1.42	5.023	.027	0.03
Control mechanism	Board of directors	3.73	1.46	3.13	1.51	4.719	.032	0.03
Control mechanism	Contractual formal agreement	3.07	1.27	3.56	1.14	4.609	.034	0.03
Conflict	Peer communications	2.93	1.13	3.11	0.95	0.817	Ns	-0.03
Conflict	Personality conflicts	2.38	1.18	2.81	1.03	4.284	.041	-0.02
Interdependence	Dependent on administrative support	1.67	1.00	2.04	1.08	3.601	Ns	-0.02
Conflict	Smooth over issues	2.83	0.98	3.17	0.91	3.543	Ns	0.02
Interdependence	Dependent on financial resources	1.75	1.05	1.76	1.20	0.002	Ns	0.02
Formalization	Shared informal understanding	3.13	1.21	2.81	1.17	2.030	Ns	-0.01
Conflict	Assertive and dominating	2.27	0.97	2.50	1.04	1.531	Ns	0.01
Complexity	Organization simple/complex	3.33	1.37	3.06	1.14	1.363	Ns	0.01
Interdependence	Dependent on technological expertise	2.48	1.23	2.24	1.11	1.210	Ns	0.01
Control focus	Quality control	2.72	1.12	2.94	1.12	1.171	Ns	-0.01
Centralization	All information channelled	3.10	1.39	3.35	1.35	0.963	Ns	0.01
Complexity	Organization hierarchical/informal	3.12	1.14	2.93	1.04	0.865	Ns	0.01
Interdependence	Dependent on market information	2.45	1.25	2.61	1.23	0.476	Ns	0.01
Conflict	Persuasion	3.83	0.96	3.72	0.83	0.431	Ns	0.01
Interdependence	Dependent on customer service	2.38	1.37	2.56	1.44	0.430	Ns	0.01
Interdependence	Dependent on manufacturing capability	1.75	1.31	1.63	1.15	0.268	Ns	0.01
Control focus	Distribution facilities	2.95	1.13	3.06	1.20	0.234	Ns	0.01
Control focus	Financial facilities	2.90	1.12	2.98	0.84	0.191	Ns	0.01
Extent of control	Overall control	2.93	0.73	2.87	0.91	0.166	Ns	0.01
Control mechanism	Technological superiority	2.22	1.24	2.13	1.15	0.150	Ns	0.01
Interdependence	Dependent on sales/profits	2.22	1.19	2.30	1.35	0.111	Ns	0.01
Control mechanism	Equity ownership	2.68	1.50	2.59	1.42	0.109	Ns	0.01
Conflict	Arbitration	1.22	0.72	1.24	0.55	0.040	Ns	0.01
Formalization	Detailed terms and activities	3.22	1.21	3.26	1.08	0.039	Ns	0.01
Formalization	Specific terms and conditions	3.33	1.11	3.31	0.93	0.009	Ns	0.01
Control focus	Customer support	2.83	1.24	2.81	1.21	0.006	Ns	0.01

10 MULTIVARIATE DISCRIMINANT ANALYSIS FOR SATISFACTION WITH ALLIANCE

Table A5.10a Summary Table of Variables Entered / Removed into the Discriminant Analysis for Satisfaction with Alliance Objectives

Step	Dimension	Variables Entered	Variables Removed	Wilks' Lambda	Sig
1	Commitment	Agreement on goals/objectives of alliance		51.962	.000
2	Participation	Seek partner advice		36.005	.000
3	Interdependence	Partner easily replaceable		27.241	.000
4	Coordination	High level of interaction between managers		22.418	.000
5	Conflict	Conflict over poor communications		19.508	.000
6	Focus of control	Control over customer support		18.157	.000
7	Interdependence	Dependency on administrative support		17.710	.000
8	Information sharing	Hesitate to give too much information		16.344	.000
9	Trust	We do not take advantage of each other		15.670	.000
10	Trust	Strong sense of loyalty to alliance		14.938	.000
11	Commitment	Identify with goals and objectives of alliance		14.395	.000
12	Interdependence	Dependency on manpower resources		13.772	.000
13	Commitment	Agreement on roles performed		13.217	.000
14	Information sharing	Both parties to keep each other informed		12.587	.000
15	Commitment	Agreement on activities performed		12.043	.000
16	Trust	Share work related problems		11.546	.000
17	Commitment	Enjoy the relationship		11.315	.000
18	Participation	Participation in goal setting		11.013	.000
19	Trust	Relationship is open and informal		10.722	.000
20	Trust	High degree of harmony		10.450	.000
21	Trust	Partner trusted to keep promises		10.174	.000
22	Centralization	Information channelled through designated office		9.936	.000
23	Interdependence	Dependency on customer service		9.712	.000
24	Commitment	Agreement on strategic direction		9.458	.000
25			Variable 3	9.951	.000
26	Interdependence	Dependency on market information		9.777	.000
27	Commitment	Motivated by profitability		9.659	.000
28			Variable 12	10.099	.000
29	Control mechanism	Management skills		9.853	.000
30	Interdependence	Dependency on manufacturing capability		9.646	.000
31	Commitment	Agreement on resource allocation		9.458	.000
32	Participation	Partner seeks our advice		9.306	.000
33	Commitment	Agreement on daily operations		9.137	.000
34	Commitment	Try to overcome problems		8.967	.000
35	Control mechanism	Formal/informal contact		8.757	.000
36	Complexity	Organization hierarchical/ informal		8.564	.000
37			Variable 16	8.881	.000
38	Coordination	Keep partner informed of important decisions		8.678	.000
39	Commitment	Listen to problems of partner		8.503	.000
40			Variable 4	8.829	.000
41	Conflict	Conflict over language difficulties		8.629	.000
42	Conflict	Conflict over cultural misunderstandings		8.493	.000
43			Variable 11	8.793	.000
44	Interdependence	Equally dependent		8.666	.000
45	Interdependence	Switch partner		8.487	.000
46	Control mechanism	Technological superiority		8.400	.000
47	Trust	Partner trusted to be supportive		8.204	.000
48	Conflict	Conflict over personality conflicts		8.031	.000
49	Commitment	Agreement on key decisions		7.869	.000
50	Commitment	Agreement on resource allocation		8.128	.000
51	Conflict	Conflict over distrust		7.968	.000
52	Commitment	Motivated by necessity		7.818	.000
53	Interdependence	Dependency on marketing capability		7.694	.000
54	Interdependence	Partner easily replaceable		7.617	.000
55	Commitment	Patient with partner over mistakes made		7.493	.000
56			Variable 21	7.720	.000
57	Coordination	Coordinated by strategic fit		7.666	.000

Table A5.10a (continued) Summary Table of Variables Entered / Removed into the Discriminant Analysis for Satisfaction with Alliance Objectives

Step	Dimension	Variables Entered	Variables Removed	Wilks' Lambda	Sig
58			Variable 17	7.911	.000
59	Conflict	Joint problem solving		7.830	.000
60			Variable 45	8.090	.000
61	Complexity	Organization flexible/inflexible		8.050	.000
62	Coordination	UK firm integrated with partner		7.949	.000
63	Commitment	Compromise to achieve objectives		7.839	.000
64	Control mechanism	Equity ownership		7.762	.000
65			Variable 38	8.011	.000
66	Extent of control	Overall control		7.922	.000
67			Variable 7	8.152	.000
68	Focus of control	Control over financial activities		8.122	.000
69			Variable 15	8.363	.000
70	Focus of control	Control over manpower management		8.355	.000
71	Information sharing	Share proprietary information		8.271	.000
72	Trust	We can rely on each other		8.215	.000
73	Conflict	Arbitration		8.108	.000
74	Commitment	Partner makes effort to keep commitments		7.990	.000
75	Trust	Close personal ties between partners		7.878	.000
76	Conflict	Agreement on conflict resolution		7.795	.000
77	Conflict	Assertive and domineering		7.719	.000
78			Variable 70	7.940	.000
79			Variable 13	8.174	.000
80	Commitment	Partnership is valuable		8.207	.000
81	Trust	Partner trusted to be supportive		8.204	.000
82	Coordination	Keep partner informed about important decisions		8.262	.000
83	Trust	Partner trusted to keep promises		8.212	.000
84	Information sharing	Inform partner of changing needs		8.231	.000
85	Interdependence	Dependency on financial resources		8.168	.000
86			Variable 29	8.389	.000
87	Commitment	Identify with goals and objectives of alliance		8.338	.000
88	Commitment	Strong sense of belonging to alliance		8.440	.000
89	Formalization	Specific terms and conditions of agreement		8.486	.000
90	Commitment	Agreement on roles performed		8.586	.000
91	Centralization	Contact through alliance managers		8.593	.000
92	Focus of control	Control over quality control		8.507	.000
93	Conflict	Conflict over conflicting goals		8.490	.000
94	Control mechanism	Power of veto		8.577	.000
95	Coordination	Teamwork with partner		8.850	.000
96			Variable 39	9.162	.000
97			Variable 47	9.454	.000
98			Variable 73	9.750	.000
99	Control mechanism	Contractual formal agreement		10.030	.000
100			Variable 18	10.298	.000
101	Coordination	Partner activities an extension of ours		10.447	.000
102	Commitment	Motivated to achieve strategic objectives		10.672	.000
103			Variable 27	11.062	.000
104			Variable 63	11.458	.000
105	Commitment	Agreement on activities performed		11.460	.000
106			Variable 8	11.804	.000
107	Commitment	Agreement on contractual terms		11.866	.000
108			Variable 49	12.212	.000
109	Interdependence	Switch partner		12.135	.000
110	Control mechanism	Regular reporting on performance		11.986	.000
111	Control mechanism	Teamwork culture		11.839	.000
112	Participation	Participation in regular meetings		11.703	.000
113	Trust	Share work related problems		11.569	.000
114	Control mechanism	Management skills		11.512	.000
115	Commitment	Enjoy the relationship		11.424	.000
116	Commitment	Agreement on key decisions		11.293	.000
117	Trust	Partner trusted to be sincere		11.149	.000
118	Interdependence	Dependency on administrative support		11.105	.000
119			Variable 23	11.509	.000
120	Commitment	Agreement on future plans		11.372	.000

**Table A5.10b Canonical Discriminant Functions
(Satisfaction with Alliance Objectives)**

Discriminant Function	Eigenvalue	Canonical Correlation	Wilks' Lambda	Chi-square	Df	Significance
1	19.970	0.976	0.048	231.275	72	.000

Table A5.10c Classification Results : Full Original Sample Predicted Group Membership (Satisfaction with Alliance Objectives)

Actual Group	Number of Cases	Predicted Group Membership		% of Cases Correctly Classified
		Successful alliances	Less Successful Alliances	
Successful Alliances	59	59 (100%)	0 (0)	99.1%
Less Successful Alliances	55	1 (1.8%)	54 (98.2%)	
Total	114	60	54	

Table A5.10d Classification Results : Validated Sample Predicted Group Membership (Satisfaction with Alliance Objectives)

Actual Group	Number of Cases	Predicted Group Membership		Prior Probability	% of Cases Above Cprop	% of Cases Correctly Classified
		Successful Alliances	Less Successful Alliances			
Successful Alliances	59	57 (96.6%)	2 (33.9%)	.52	45.5	95.6%
Less Successful Alliances	55	3 (5.5%)	52 (94.5%)	.48		
Total	114	60	54			

Table A5.10e Summary Results of Discriminant Analysis (Satisfaction with Alliance Objectives)

Dimension	Behavioural and Organizational Characteristics	Mean Score for Successful Group	Means Score for Less Successful Group	F	P	Discriminant Loading
Commitment	Agreement on goals/objectives of alliance	4.37	3.05	1.19	51.962	.000
Trust	Strong sense of loyalty to partner	3.98	2.82	1.12	50.769	.000
Coordination	Teamwork with partner	3.98	2.87	1.00	38.879	.000
Trust	We can rely on each other	3.92	2.87	0.90	37.384	.000
Commitment	Enjoy the relationship	3.98	2.93	1.00	36.007	.000
Commitment	Agreement on activities performed	3.83	2.85	1.01	35.666	.000
Commitment	Strong sense of belonging to alliance	3.98	2.82	1.12	33.492	.000
Participation	Seeks partner advice	3.68	2.56	1.15	33.433	.000
Trust	High degree of harmony	3.68	2.85	0.80	32.892	.000
Trust	Share work related problems	3.75	2.82	0.98	30.694	.000
Commitment	Agreement on future plans	3.80	2.80	1.03	29.222	.000
Participation	Partner seeks advice	3.32	2.27	1.04	28.822	.000
Commitment	Partnership valuable	4.39	3.36	1.25	27.801	.000
Interdependence	Equally dependent	3.25	2.13	1.20	23.917	.000
Coordination	Partner informed about important decisions	4.17	3.35	0.93	23.343	.000
Commitment	Identify with goals and objectives	4.12	3.16	1.20	23.132	.000
Commitment	Motivated to achieve strategic objectives	4.27	3.20	1.42	23.085	.000
Commitment	Agreement on daily operations	3.93	3.07	1.07	22.336	.000
Commitment	Agreement on key decisions	3.83	2.96	1.02	22.135	.000
Commitment	Try to overcome problems	4.47	3.85	0.80	22.064	.000
Commitment	Agreement on strategic direction	3.98	3.11	1.21	20.237	.000
Trust	Partner trusted to be supportive	3.59	2.89	0.88	19.275	.000
Coordination	UK firm integrated with partner	3.00	2.11	1.03	18.977	.000
Commitment	Motivated by necessity	3.32	2.31	1.30	18.949	.000
Conflict	Joint problem solving	3.95	3.29	0.92	18.618	.000
Commitment	Agreement on contractual terms	4.10	3.29	1.20	17.075	.000
Commitment	Partner keeps commitments made	3.86	3.25	0.73	16.165	.000
Trust	Relationship is open and informal	3.73	3.07	0.98	15.019	.000
Interdependence	Switch partner	1.63	0.91	2.45	14.413	.000
Trust	Close personal ties between partner	3.66	2.96	0.98	14.205	.000
Interdependence	Partner easily replaceable	2.31	1.04	3.05	13.634	.000
Information sharing	Inform partner of changing needs	3.95	3.35	0.89	13.624	.000
Conflict	Conflicting goals	2.53	1.16	3.33	12.746	.000
Trust	Partner trusted to be sincere	4.00	3.45	0.86	10.582	.002
Commitment	Patient with partner over mistakes	3.97	3.47	0.86	10.538	.002
Participation	Participation in regular meetings	4.25	3.75	1.02	10.111	.002
Coordination	Partner activities an extension of ours	3.22	2.45	1.41	9.749	.002
Trust	Partner trusted to keep promises	3.95	3.38	1.05	9.696	.002
Commitment	Agreement on roles performed	3.98	3.44	1.05	9.480	.003

Table A5.10e (continued) Summary Results of Discriminant Analysis (Satisfaction with Alliance Objectives)

Dimension	Behavioural and Organizational Characteristics	Mean Score for Successful Group		Mean Score for Less Successful Group		F	P	Discriminant Loading
		Group	Group	Group	Group			
Commitment	Agreement on conflict resolution	3.61	1.05	3.02	1.03	9.232	.003	0.06
Conflict	Cultural misunderstandings	2.73	1.20	3.40	1.20	8.928	.003	-0.06
Information sharing	Share proprietary information	3.66	1.11	3.07	1.17	7.613	.007	0.06
Control mechanism	Teamwork culture	3.69	1.05	3.11	1.21	7.606	.007	0.06
Control mechanism	Regular reporting on performance	4.02	0.88	3.56	0.98	6.788	.010	0.06
Control mechanism	Customer support	3.08	1.13	2.55	1.26	5.787	.018	0.05
Trust	We do not take advantage of each other	3.71	1.00	3.31	0.88	5.180	.025	0.05
Conflict	Distrust	2.00	0.96	2.40	1.03	4.587	.034	-0.05
Conflict	Poor communications	2.83	1.09	3.22	0.98	4.003	.048	-0.04
Conflict	Personality conflicts	2.39	1.25	2.80	0.95	3.863	Ns	-0.04
Interdependence	Dependency on administrative support	1.68	1.01	2.02	1.08	3.028	Ns	0.04
Interdependence	Dependency on manufacturing capability	1.86	1.34	1.51	1.09	2.386	Ns	0.03
Formalization	Specific terms and conditions	3.46	1.06	3.18	0.98	2.076	Ns	0.03
Control mechanism	Power of veto	1.69	0.97	2.00	1.29	2.053	Ns	-0.03
Control mechanism	Technological superiority	2.32	1.28	2.02	1.08	1.865	Ns	0.03
Control mechanism	Equity ownership	2.80	1.47	2.47	1.44	1.409	Ns	0.03
Complexity	Organization flexible/inflexible	2.90	1.06	3.11	0.94	1.256	Ns	-0.02
Control mechanism	Financial activities	3.03	1.02	2.84	0.96	1.136	Ns	0.02
Coordination	Coordinated by strategic fit	2.39	1.02	2.58	1.07	0.968	Ns	0.02
Conflict	Language difficulties	1.83	1.04	2.04	1.22	0.950	Ns	-0.02
Control mechanism	Formal/informal contact	4.08	0.90	3.91	1.04	0.936	Ns	0.02
Centralization	All contact through alliance managers	3.02	1.43	3.25	1.24	0.894	Ns	-0.02
Interdependence	Dependent on financial resources	1.66	0.99	1.85	1.24	0.853	Ns	0.02
Extent of control	Overall control	2.97	0.74	2.84	0.90	0.711	Ns	0.02
Centralization	All information channelled	3.12	1.37	3.33	1.38	0.660	Ns	-0.02
Conflict	Assertive and dominating	2.32	1.07	2.44	0.94	0.364	Ns	-0.01
Complexity	Organization hierarchical/informal	3.08	1.12	2.96	1.07	0.348	Ns	0.01
Control mechanism	Management skills	3.17	0.97	3.05	1.18	0.326	Ns	0.01
Focus of control	Quality control	2.88	1.10	2.76	1.15	0.311	Ns	0.01
Formalization	Shared informal understanding	2.98	1.22	2.98	1.18	0.000	Ns	0.01
Interdependence	Dependent on marketing capability	2.59	1.30	2.56	1.44	0.035	Ns	0.01
Control mechanism	Contractual formal agreement	3.29	1.20	3.31	1.27	0.008	Ns	0.04
Interdependence	Dependent on market information	2.53	1.29	2.53	1.20	0.000	Ns	0.02

11 MULTIVARIATE DISCRIMINANT ANALYSIS FOR SATISFACTION WITH OVERALL ALLIANCE PERFORMANCE

**Table A5.11a Summary Table of Variables Entered / Removed into the
Discriminant Analysis for Satisfaction with Overall Alliance Performance**

Step	Dimension	Variables Entered	Variables Removed	Wilks' Lambda	Sig
1	Commitment	Agreement on goals/objectives of alliance		56.176	.000
2	Conflict	Degree of conflict		41.533	.000
3	Interdependence	Equally dependent		36.316	.000
4	Commitment	Agreement on daily operations		30.835	.000
5	Commitment	Agreement on roles performed		28.596	.000
6	Formalization	Shared informal understanding		26.300	.000
7	Participation	Seeks partners advice		24.590	.000
8	Focus of control	Control over quality control		22.640	.000
9	Control mechanism	Management skills		20.809	.000
10	Interdependence	Dependency on manufacturing capabilities		19.489	.000
11	Conflict	Conflict over personality conflicts		18.403	.000
12	Conflict	Conflict over language difficulties		17.734	.000
13	Control mechanism	Involvement in planning process		16.999	.000
14	Control mechanism	Regular reporting on performance		16.399	.000
15	Commitment	Listen to problems of partner		15.860	.000
16	Interdependence	Dependency on manpower resources		15.431	.000
17	Commitment	Motivated by profitability		15.081	.000
18	Conflict	Smooth over issue		14.645	.000
19	Trust	We can rely on each other		14.330	.000
20	Focus of control	Control over financial activities		13.978	.000
21	Trust	High degree of harmony		13.644	.000
22	Participation	Partner seeks advice		13.331	.000
23	Centralization	Information channelled through designated office		13.104	.000
24	Information sharing	Share proprietary information		13.000	.000
25	Commitment	Compromise to achieve objectives		12.723	.000
26	Commitment	Obligated to satisfy needs		12.650	.000
27	Control mechanism	Formal/informal contact		12.525	.000
28	Interdependence	Partner easily replaceable		12.377	.000
29	Focus of control	Control over marketing/sales		12.167	.000
30	Focus of control	Control over pricing policy		12.044	.000
31	Information sharing	Hesitate to give too much information		12.060	.000
32	Participation	Participation in goal setting		11.983	.000
33	Trust	Share work related problems		11.933	.000
34	Interdependence	Dependency on management skills		11.815	.000
35	Control mechanism	Equity ownership		11.689	.000
36	Control mechanism	Technological superiority		11.846	.000
37	Interdependence	Dependency on market information		11.833	.000
38	Interdependence	Dependency on administrative support		11.967	.000
39			Variable 8	12.375	.000
40	Commitment	Motivated by necessity		12.436	.000
41	Trust	We do not take advantage of each other		12.591	.000
42	Complexity	Organization flexible/inflexible		12.742	.000
43	Commitment	Agreement on contractual terms		13.278	.000
44	Commitment	Agreement on key decisions		13.486	.000
45			Variable 26	13.924	.000
46	Conflict	Conflict over distrust		13.956	.000
47	Interdependence	Dependency on sales/profits		14.201	.000
48	Conflict	Persuasion		14.282	.000
49			Variable 11	14.782	.000
50			Variable 17	15.256	.000
51	Trust	Strong sense of loyalty to partner		15.667	.000
52	Commitment	Agreement on strategic direction		15.723	.000
53	Trust	Partner trusted to be supportive		15.850	.000
54	Conflict	Avoid issue		15.983	.000
55	Participation	Participation in regular meetings		15.837	.000
56	Commitment	Agreement on resource allocation		15.689	.000

Table A5.11a (continued) Summary Table of Variables Entered / Removed into the Discriminant Analysis (Satisfaction with Overall Alliance Performance)

Step	Dimension	Variables Entered	Variables Removed	Wilks' Lambda	Sig
57	Control mechanism	Power of veto		15.520	.000
58	Formalization	Detailed tasks and activities		15.494	.000
59	Coordination	High level of interaction between managers		15.253	.000
60	Coordination	Coordinated by strategic fit		15.029	.000
61	Commitment	Partnership is valuable		14.936	.000
62	Trust	Partner trusted to be sincere		14.825	.000
63	Commitment	Motivated by desire		14.838	.000
64	Interdependence	Dependency on marketing capability		14.701	.000
65	Commitment	Obligated to satisfy needs		14.686	.000
66	Commitment	Enjoy the relationship		14.767	.000
67			Variable 5	15.218	.000
68			Variable 54	15.638	.000
69	Coordination	Teamwork with partner		15.691	.000
70			Variable 6	16180	.000

Table A5.11b Canonical Discriminant Functions (Satisfaction with Overall Alliance Performance)

Discriminant Function	Eigenvalue	Canonical Correlation	Wilks' Lambda	Chi-square	Df	Significance
1	42.284	0.954	0.023	295.772	67	.000

Table A5.11c Classification Results : Full Original Sample Predicted Group Membership (Satisfaction with Overall Alliance Performance)

Actual Group	Number of Cases	Predicted Group Membership		% of Cases Correctly Classified
		Successful alliances	Less Successful Alliances	
Successful Alliances	60	60 (100%)	0(0)	100.0%
Less Successful Alliances	54	0(0)	54 (100%)	
Total	114	60	54	

Table A5.11d Classification Results : Validated Sample Predicted Group Membership (Satisfaction with Overall Alliance Performance)

Actual Group	Number of Cases	Predicted Group Membership		Prior Probability	% of Cases Above Cprop	% of Cases Correctly Classified
		Successful Alliances	Less Successful Alliances			
Successful Alliances	60	58	2	.53	44.52	94.7
Less Successful Alliances	54	0	54	.47		
Total	114	58	56			

Table A5.11e Summary Results of Discriminant Analysis (Satisfaction with Overall Alliance Performance)

Dimension	Behavioural and Organizational Characteristics	Mean Score for Successful Group		Mean Score for Less Successful Group		F	P	Discriminant Loading
		4.39	0.74	3.04	1.15			
Commitment	Agreement on goals/objectives of alliance	3.41	1.29	1.96	0.96	45.426	.000	0.2
Interdependence	Equally dependent	4.05	0.84	2.95	0.97	42.488	.000	0.2
Commitment	Agreement on daily operations	3.93	0.85	2.85	0.95	40.882	.000	0.2
Trust	We can rely on each other	3.71	0.72	2.82	0.77	40.881	.000	0.2
Trust	High degree of harmony	3.80	0.78	2.76	0.94	40.746	.000	0.2
Trust	Share work related problems	4.10	0.92	2.87	1.14	40.294	.000	0.2
Commitment	Strong sense of loyalty to alliance	1.97	0.74	3.02	1.05	38.815	.000	-0.1
Conflict	Degree of conflict	4.10	0.84	2.98	1.10	37.587	.000	0.1
Commitment	Agreement on strategic direction	3.68	0.92	2.56	1.13	33.433	.000	0.1
Participation	Seek partner advice	3.90	0.96	2.89	0.94	32.118	.000	0.1
Commitment	Agreement on key decisions	3.34	1.12	2.25	0.93	31.333	.000	0.1
Participation	Partner seeks advice	3.95	1.02	2.84	1.15	29.823	.000	0.1
Coordination	High level of interaction between managers	4.39	0.83	3.36	1.22	27.801	.000	0.1
Commitment	Partnership is valuable	3.93	0.94	2.98	0.99	27.500	.000	0.1
Commitment	Enjoy relationship	3.92	1.02	2.95	0.95	27.405	.000	0.1
Coordination	Teamwork with partner	3.93	0.91	2.98	1.11	25.103	.000	0.1
Participation	Participation in goal setting	3.66	1.06	2.73	0.93	24.789	.000	0.1
Commitment	Agreement on resource allocation	3.63	0.81	2.85	0.87	24.199	.000	0.1
Trust	Partner trusted to be supportive	4.15	0.87	3.24	1.17	22.764	.000	0.1
Commitment	Agreement on contractual terms	3.36	1.28	2.27	1.16	22.208	.000	0.1
Commitment	Motivated by necessity	4.15	0.91	3.40	0.93	19.040	.000	0.1
Commitment	Try to satisfy needs	4.07	0.91	3.22	1.18	18.693	.000	0.1
Commitment	Motivated by desire	4.44	0.79	3.45	1.05	33.595	.000	0.1
Commitment	Motivated by profitability	1.85	0.87	2.56	1.03	16.165	.000	0.1
Conflict	Distrust	4.05	0.88	3.40	0.87	15.695	.000	-0.09
Trust	Partner trusted to be sincere	3.86	1.02	3.20	0.95	12.827	.001	0.09
Commitment	Compromise to achieve objectives	4.27	0.72	3.73	0.97	11.706	.001	0.09
Participation	Participation in regular meetings	3.80	0.94	3.22	0.90	11.235	.001	0.08
Trust	We do not take advantage	2.15	1.08	2.78	1.03	10.099	.002	-0.08
Information sharing	Hesitate to give too much information							

Table A5.11e (continued) Summary Results of Discriminant Analysis (Satisfaction with Overall Alliance Performance)

Dimension	Behavioural and Organizational Characteristics	Mean Score for Successful Group		Mean Score for Less Successful Group		F	P	Discriminant Loading
		Group	Group	Group	Group			
Interdependence	Partner easily replaceable	2.36	1.06	3.00	1.14	9.758	.002	-0.07
Control mechanism	Involvement in planning process	3.68	0.80	3.20	1.10	7.163	.009	0.06
Control mechanism	Power of veto	1.58	0.93	2.13	1.28	6.988	.009	-0.06
Information sharing	Share proprietary information	3.64	1.13	3.09	1.16	6.678	.011	0.06
Interdependence	Dependent on manufacturing capability	1.97	1.36	1.40	1.01	6.263	.014	0.06
Commitment	Try to listen to problems	4.31	0.73	3.93	0.92	5.971	.016	0.06
Control mechanism	Regular reporting on performance	4.00	0.87	3.58	0.99	5.725	.018	0.06
Conflict	Smooth over issue	2.81	1.01	3.18	0.86	4.361	.039	-0.05
Formalization	Detailed tasks and activities	3.44	1.21	3.02	1.05	3.965	.049	0.05
Control focus	Marketing and sales	3.22	1.08	2.84	1.10	3.517	Ns	0.04
Interdependence	Dependent on management skills	2.41	0.98	2.11	0.99	2.578	Ns	0.04
Interdependence	Dependent on market information	2.37	1.29	2.69	1.18	1.880	Ns	0.03
Compatibility	Organization flexible/inflexible	2.88	1.12	3.13	0.86	1.717	Ns	-0.03
Control mechanism	Management skills	3.24	0.92	2.98	1.21	1.630	Ns	0.03
Interdependence	Dependency on marketing capability	2.42	1.28	2.73	1.45	1.417	Ns	0.03
Coordination	Coordinated by strategic fit	2.37	1.03	2.60	1.05	1.359	Ns	0.03
Control mechanism	Formal/informal contact	4.10	0.98	3.89	0.96	1.352	Ns	0.03
Conflict	Language difficulties	1.81	0.97	2.05	1.27	1.306	Ns	0.03
Control mechanism	Technological superiority	2.29	1.26	2.05	1.11	1.094	Ns	0.03
Control focus	Financial activities	3.02	1.07	2.85	0.89	0.766	Ns	0.02
Conflict	Persuasion	3.85	0.98	3.71	0.81	0.671	Ns	0.02
Control mechanism	Equity ownership	2.75	1.43	2.53	1.49	0.637	Ns	0.02
Interdependence	Dependent on administrative support	1.80	1.08	1.89	1.03	0.227	Ns	0.01
Interdependence	Dependent on sales/profit	2.20	1.16	2.31	1.39	0.196	Ns	0.01
Interdependence	Dependent on manpower resources	2.32	1.28	2.24	1.36	0.120	Ns	0.01
Control focus	Pricing policy	2.97	0.95	2.96	1.26	0.000	Ns	0.01
Centralization	All information channelled	3.22	1.39	3.22	1.36	0.000	Ns	0.01

12 MULTIVARIATE DISCRIMINANT ANALYSIS FOR PERCEIVED PARTNER SATISFACTION WITH ALLIANCE PERFORMANCE

Table A5.12a Summary of Variables Entered / Removed into the Discriminant Analysis for Perceived Partner Satisfaction with Alliance Performance

Step	Dimension	Variables Entered	Variables Removed	Wilks' Lambda	Sig
1	Trust	We can rely each other		73.186	.000
2	Commitment	Agreement on future plans		44.410	.000
3	Conflict	Conflict over poor communications		32.841	.000
4	Conflict	Degree of conflict		27.647	.000
5	Conflict	Assertive and domineering		24.261	.000
6	Interdependence	Technological superiority		21.487	.000
7	Trust	Relationship is open and informal		19.715	.000
8	Trust	High degree of harmony		18.666	.000
9	Formalization	Detailed tasks and activities		17.347	.000
10	Extent of control	Overall control		16.249	.000
11	Participation	Planning process		15.286	.000
12	Participation	Participation in goal setting		14.775	.000
13	Trust	Partner trusted to keep promises		14.589	.000
14	Complexity	Organization simple/complex		14.051	.000
15	Conflict	Arbitration		13.647	.000
16	Information sharing	Share proprietary information		13.293	.000
17	Interdependence	Dependency on manufacturing capabilities		12.842	.000
18	Control mechanism	Regular reporting on performance		12.595	.000
19	Conflict	Conflict over personality conflicts		12.291	.000
20	Conflict	Agreement on conflict resolution		11.951	.000
21	Participation	Partners seeks advice		11.740	.000
22	Commitment	Motivated by necessity		11.515	.000
23	Commitment	Obligated to satisfy needs		11.358	.000
24	Interdependency	Dependency on financial resources		11.251	.000
25	Conflict	Avoid the issue		11.358	.000
26			Variable 14	11.909	.000
27	Control mechanism	Formal / informal contact		12.327	.000
28	Focus of control	Control over pricing policy		12.457	.000
29			Variable 10	13.037	.000
30	Coordination	Keep partner informed of decisions		13.157	.000
31			Variable 13	13.777	.000
32	Interdependence	Dependency on technological expertise		13.777	.000
33	Focus of control	Control over quality control		13.847	.000
34	Control mechanism	Management skills		14.250	.000
35	Conflict	Conflict over distrust		14.656	.000
36			Variable 1	15.335	.000
37	Commitment	Motivated to achieve goals/objectives		15.344	.000
38	Centralization	Contact through alliance managers		15.285	.000
39	Complexity	Organization flexible/inflexible		15.230	.000
40	Focus of control	Control over financial activities		15.458	.000
41	Interdependence	Dependency on manpower resources		15.546	.000
42			Variable 19	12.138	.000
43	Interdependence	Dependency on sales/ profits		16.501	.000
44	Interdependence	Dependency on management skills		16.472	.000
45	Trust	Partner keeps commitments		16.467	.000
46	Information sharing	Hesitate to give too much information		16.577	.000
47	Focus of control	Control over manpower management		16.833	.000
48	Trust	Partner trusted to be supportive		16.904	.000
49	Commitment	Listen to partner problems		16.895	.000
50	Commitment	Try to overcome problems		17.625	.000
51	Formalization	Partnership based on informal understanding		18.256	.000
52	Focus of control	Control over distribution facilities		18.885	.000
53			Variable 4	19.470	.000
54	Commitment	Motivated by desire		19.861	.000
55	Information sharing	Both parties keep each other informed		20.008	.000

Table A5.12a (continued) Summary of Variables Entered / Removed into the Discriminant Analysis for Perceived Partner Satisfaction with Alliance Performance

Step	Dimension	Variables Entered	Variables Removed	Wilks' Lambda	Sig
56	Interdependence	Dependency on administrative support		20.434	.000
57	Commitment	Agreement on activities performed		20.769	.000
58	Conflict	Conflict over cultural misunderstandings		21.230	.000
59	Trust	Partner trusted to keep promises		21.481	.000
60	Interdependence	Dependency on market information		22.376	.000
61	Participation	Participate in joint decision-making		22.874	.000
62	Coordination	UK firm integrated with partner		23.037	.000
63	Participation	Participation in planning activities		23.314	.000
64	Control mechanism	Equity ownership		24.048	.000
65	Participation	UK firm seeks partner advice		24.286	.000
66	Participation	Participation in regular meetings		24.107	.000
67	Interdependence	Switch to new partner		23.960	.000
68	Interdependence	Partner easily replaceable		24.290	.000
69	Trust	Lack of continuity in management teams		24.264	.000
70	Commitment	Identify with goals and objectives		24.210	.000
71	Commitment	Obligated to build relationship		24.609	.000
72			Variable 20	25.496	.000
73	Commitment	Patient if mistakes made		25.876	.000
74			Variable 8	26.561	.000
75	Coordination	Coordinated by strategic fit		26.792	.000
76	Commitment	Agreement on resource allocation		27.225	.000
77	Conflict	Smooth over issues		27.958	.000
78	Trust	Partner trusted to show loyalty		28.393	.000
79	Commitment	Shared vision and understanding		28.312	.000
80	Interdependence	Dependency on marketing capability		28.221	.000
81	Conflict	Conflict over language difficulties		27.998	.000
82	Commitment	Encourage goal achievement		27.826	.000
83	Trust	We can rely on each other		27.500	.000
84	Commitment	Motivated to achieve strategic objectives		27.468	.000
85	Trust	Close personal ties between partners		27.272	.000
86			Variable 79	28.294	.000
87			Variable 61	29.031	.000

Table A5.12b Canonical Discriminant Functions (Perceived Partner Satisfaction with Alliance Performance)

Discriminant Function	Eigenvalue	Canonical Correlation	Wilks' Lambda	Chi-square	Df	Significance
1	42.284	0.954	0.023	295.772	67	.000

Table A5.12c Classification Results : Full Original Sample Predicted Group Membership (Perceived Partner Satisfaction with Alliance Performance)

Actual Group	Number of Cases	Predicted Group Membership		% of Cases Correctly Classified
		Successful alliances	Less Successful Alliances	
Successful Alliances	60	60 (100%)	0(0)	100.0%
Less Successful Alliances	54	0(0)	54 (100%)	
Total	114	60	54	

Table A5.12d Classification Results : Validated Sample Predicted Group Membership (Perceived Partner Satisfaction with Alliance Performance)

Actual Group	Number of Cases	Predicted Group Membership		Prior Probability	% of Cases Above Cprop	% of Cases Correctly Classified
		Successful Alliances	Less Successful Alliances			
Successful Alliances	60	58	2	.53	49.82	100.0
Less Successful Alliances	54	0	54	.47		
Total	114	58	56			

Table A5.12e Summary Results of Discriminant Analysis (Perceived Partner Satisfaction with Alliance Performance)

Dimension	Behavioural and Organizational Characteristics	Mean Score for Successful Group	Mean Score for Less Successful Group	F	P	Discriminant Loading
Trust	We can rely on each other	4.03	2.72	73.186	.000	0.12
Commitment	Agreement on future plans	3.90	2.67	51.841	.000	0.11
Participation	Participation in goal setting	4.05	2.83	47.910	.000	0.10
Trust	Partner trusted to show loyalty	3.88	2.81	39.362	.000	0.10
Commitment	Agreement on resource allocation	3.73	2.63	37.895	.000	0.10
Commitment	Agreement on activities performed	3.80	2.87	31.370	.000	0.10
Trust	Partner trusted to be supportive	3.65	2.81	29.293	.000	0.10
Commitment	Partner keeps commitments made	3.93	3.17	27.828	.000	0.10
Conflict	Distrust	1.77	2.67	27.804	.000	0.10
Commitment	Identify with goals and objectives of alliance	4.10	3.17	21.851	.000	0.10
Participation	Partner seeks advice	3.23	2.35	18.874	.000	0.06
Trust	Partner trusted to keep promises	4.03	3.28	18.398	.000	0.06
Trust	Relationship open and informal	3.72	3.07	14.305	.000	0.06
Commitment	Motivated to achieve strategic objectives	4.17	3.30	14.219	.000	0.05
Commitment	Try to satisfy partner needs	4.10	3.44	13.855	.000	0.05
Information sharing	Both parties keep each other informed	4.22	3.61	13.730	.000	-0.05
Interdependence	Switch partner	1.65	2.44	13.132	.000	0.05
Information sharing	Sharing proprietary information	3.73	2.98	12.972	.000	0.05
Conflict	Cultural misunderstandings	2.68	3.46	12.370	.000	-0.05
Information sharing	Hesitate to give too much information	2.13	2.81	12.011	.000	-0.05
Commitment	Try to overcome problems	4.40	3.93	11.903	.001	0.05
Commitment	Patient with partner over mistakes made	3.97	3.46	11.009	.001	0.05
Participation	Seek partners advice	3.47	2.78	10.770	.001	0.05
Participation	Participation in planning activities	3.15	2.43	10.506	.002	0.05
Commitment	Motivated by necessity	3.20	2.43	10.321	.002	0.05
Commitment	Try to listen to problems	4.35	3.87	9.930	.002	0.05
Control mechanism	Regular reporting on performance	4.05	3.52	9.532	.003	0.05
Trust	Close personal ties between partners	3.60	3.02	9.493	.003	0.05
Coercion	Keep partner informed of important decisions	4.03	3.48	9.374	.003	0.04
Trust	Lack of continuity in management teams	2.25	2.87	9.052	.003	-0.04
Commitment	Encourage goal achievement	4.32	3.87	8.920	.003	0.04
Commitment	Help to build the relationship	4.12	3.57	8.721	.004	0.04

Table A5.12e (continued) Summary Results of Discriminant (Perceived Partner Satisfaction with alliance Performance)

Dimension	Behavioural and Organizational Characteristics	Mean Score for Successful Group		Means Score for Less Successful Group	F	P	Discriminant Loading
		Mean Score for Successful Group	Mean Score for Less Successful Group				
Coordination	UK firm integrated with partner	2.87	1.20	2.24	8.612	.004	0.04
Commitment	Motivated by desire	3.93	1.04	3.35	8.029	.005	0.04
Participation	Participation in regular meetings	4.22	0.80	3.78	7.342	.008	0.04
Interdependence	Partner easily replaceable	2.40	1.06	2.96	7.293	.008	-0.04
Conflict	Assertive and dominating	2.15	0.94	2.63	6.765	.011	-0.04
Conflict	Avoid issue	1.93	0.99	2.35	5.928	.016	-0.04
Conflict	Poor communications	2.80	1.12	3.26	5.691	.019	-0.04
Interdependence	Dependent on technological expertise	2.60	1.15	2.11	5.081	.026	0.03
Control mechanism	Technological superiority	2.37	1.22	1.96	3.329	Ns	0.03
Commitment	Motivated to achieve longterm objectives	3.43	1.03	3.09	3.263	Ns	0.03
Control focus	Management skills	3.28	0.90	2.93	3.230	Ns	0.03
Coordination	Coordinated by strategic fit	2.33	1.02	2.65	2.637	Ns	0.02
Control focus	Distribution facilities	3.15	1.07	2.83	2.140	Ns	0.02
Formalization	Detailed tasks and activities	3.38	1.21	3.07	2.087	Ns	0.02
Control mechanism	Involvement in planning process	3.57	0.95	3.31	1.898	Ns	0.02
Interdependence	Dependent on manufacturing capability	1.83	1.28	1.54	1.646	Ns	0.02
Formalization	Shared informal understanding	3.12	1.19	2.83	1.600	Ns	0.02
Control focus	Quality control	2.72	1.14	2.94	1.171	Ns	0.02
Control focus	Financial activities	3.03	0.97	2.83	1.164	Ns	0.02
Interdependence	Dependent on market information	2.42	1.23	2.65	0.987	Ns	0.01
Conflict	Arbitration	1.28	0.76	1.17	0.948	Ns	0.01
Control mechanism	Formal/informal contact	4.08	0.96	3.91	0.937	Ns	0.01
Interdependence	Dependent on financial resources	1.67	0.99	1.85	0.779	Ns	0.01
Complexity	Organization flexible/inflexible	2.93	1.02	3.07	0.556	Ns	-0.01
Interdependence	Dependent on marketing capability	2.48	1.27	2.67	0.512	Ns	0.01
Control focus	Pricing policy	3.03	0.97	2.89	0.484	Ns	0.01
Interdependence	Dependent on administrative support	1.78	1.04	1.91	0.393	Ns	0.01
Conflict	Smooth over issues	2.95	1.03	3.04	0.235	Ns	0.01
Interdependence	Dependent on manpower resources	2.33	1.34	2.22	0.202	Ns	0.01
Interdependence	Dependent on management skills	2.30	1.00	2.22	0.172	Ns	0.01
Control focus	Manpower management	2.78	1.15	2.87	0.160	Ns	0.01
Conflict	Language difficulties	1.97	1.09	1.89	0.134	Ns	0.01
Interdependence	Dependent on sales/profit	2.22	1.15	2.30	0.111	Ns	0.01
Control mechanism	Equity ownership	2.60	1.49	2.69	0.096	Ns	0.01
Centralization	Contact through alliance managers	3.17	1.39	3.09	0.086	Ns	0.01

13 REGRESSION ANALYSIS

In this section multiple regression analysis results are reported for each of the 13 dependent measures of alliance satisfaction. The predictors and dependent measures used are presented in Table A5.13a.

Table A5.13a Independent and Dependent Measures used in the Regression Analysis for Alliance Satisfaction

Independent Variables	Dependent Measures
<p>Behavioural Factors Factor 1 = Trust in partner = $\beta 1$ Factor 2 = Commitment to alliance goals = $\beta 2$ Factor 3 = Committed to alliance by obligation = $\beta 3$ Factor 4 = Commitment to stay in relationship = $\beta 4$ Factor 5 = Information quality = $\beta 5$ Factor 6 = Dependency on marketing capabilities = $\beta 6$ Factor 7 = Coordination between partner firms = $\beta 7$ Factor 8 = Information sharing = $\beta 8$ Factor 9 = Participation = $\beta 9$ Factor 10 = Conflict = $\beta 10$ Factor 11 = Dependency on administrative support = $\beta 11$ Factor 12 = Dependency on management skills = $\beta 12$ Factor 13 = Dependency on financial resources = $\beta 13$</p> <p>Organizational Factors Factor 1 = Operational control = $\beta 14$ Factor 2 = Technological Control = $\beta 15$ Factor 3 = Informal Control mechanisms = $\beta 16$ Factor 4 = Formal Control mechanisms = $\beta 17$ Factor 5 = Centralized decision-making = $\beta 18$ Factor 6 = Organization of alliance = $\beta 19$ Factor 7 = Formalization = $\beta 20$</p>	<p>Alliance Satisfaction</p> <ul style="list-style-type: none"> • Satisfaction with Relationship <ol style="list-style-type: none"> 1. Coordination of activities 2. Interaction between managers 3. Compatibility of activities 4. Participation in decision making 5. Level of commitment 6. Sharing information 7. Managing alliance activities 8. Level of honesty • Satisfaction with Overall Objectives <ol style="list-style-type: none"> 1. Market share 2. Profitability 3. Sales growth • Satisfaction with Alliance Performance • Perceived Partner Satisfaction

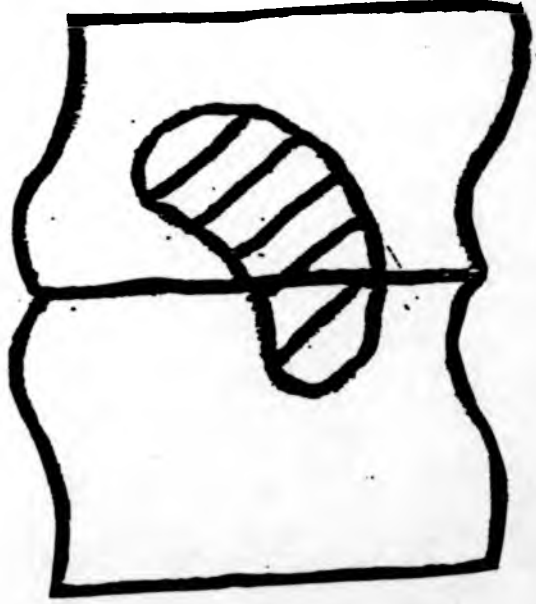
Table A5.13b. Regression Analysis for Behavioural Factors and Alliance Satisfaction Measures

Dependent Measures	Constant	b1	b2	b3	b4	b5	b6	b7	b8	b9	b10	b11	b12	b13	R2	F Statistic
Y4	3.429 (.869)	.574** (.069)	.307** (.084)	.101 (.087)	.439** (.069)	.168** (.069)	-.149* (.073)	-.129* (.073)	.228** (.072)	-.097 (.071)	-.175* (.073)	-.068 (.070)	-.008 (.072)	-.003 (.069)	.637	8.171
Y5	3.316	.583** (.062)	.351** (.075)	.148* (.078)	.257** (.062)	.134* (.062)	-.078 (.065)	-.148 (.066)	.160 (.064)	.032 (.063)	-.054 (.065)	.070 (.063)	.029 (.064)	-.042 (.062)	.625	7.752
Y6	3.702	.732** (.064)	.322** (.078)	.039 (.080)	.113* (.064)	.207** (.064)	-.081 (.067)	-.117* (.068)	.179** (.067)	.103 (.065)	-.098 (.067)	.064 (.065)	.086 (.066)	.065 (.064)	.709	11.319
Y7	3.518	.394** (.062)	.181* (.075)	.108 (.078)	.110* (.061)	.156** (.062)	-.162** (.065)	-.152* (.065)	.176** (.064)	.079 (.063)	.140* (.065)	-.113* (.062)	.136* (.064)	-.042 (.064)	.673	9.561
Y8	3.518	.576** (.066)	.167* (.075)	.116 (.083)	.128* (.066)	.243** (.067)	-.312** (.069)	-.152* (.070)	.087 (.069)	-.062 (.068)	-.033 (.069)	-.053 (.067)	.069 (.068)	.105 (.066)	.707	11.241
Y9	3.359	.462** (.059)	.307** (.072)	.186** (.074)	.186** (.059)	.052 (.059)	.042 (.062)	-.056 (.063)	.211** (.061)	.043 (.060)	.028 (.062)	-.109** (.059)	.057 (.061)	-.005 (.059)	.694	10.550
Y10	3.254	.484** (.057)	.257** (.069)	.013 (.071)	.086 (.057)	.280** (.059)	-.136* (.059)	.122* (.060)	.263** (.059)	.007 (.058)	.068 (.059)	-.008 (.057)	.065 (.059)	.194** (.057)	.721	12.014
Y11	3.149	.634** (.059)	.272** (.073)	.136* (.076)	.135** (.059)	.187** (.060)	-.141* (.063)	.165** (.064)	.156** (.062)	-.008 (.061)	.037 (.063)	-.169** (.061)	.062 (.062)	.0401 (.060)	.729	12.479
Y12	3.394	.366** (.053)	.428** (.114)	.339** (.118)	.567** (.053)	.290** (.094)	.038 (.098)	.318** (.0992)	.092 (.097)	.204* (.096)	.054 (.099)	-.257* (.095)	.025 (.097)	-.115* (.094)	.532	5.294
Y13	3.394	.359** (.063)	.364** (.101)	.201* (.105)	.396** (.063)	.281** (.084)	.029 (.087)	.246** (.088)	.292** (.086)	.186* (.085)	.045 (.088)	-.236** (.084)	.132 (.086)	-.100 (.084)	.546	5.589
Y14	3.342	.402** (.061)	.264** (.089)	.208* (.102)	.411** (.061)	.196** (.081)	.017 (.085)	.245** (.086)	.307** (.084)	.138* (.083)	-.003 (.085)	-.142* (.082)	.135 (.084)	-.119 (.081)	.548	5.638
Y15	3.447	.439** (.073)	.438** (.089)	.093 (.092)	.256** (.073)	.246** (.074)	-.059 (.077)	.132* (.078)	.089 (.076)	.073 (.075)	.203** (.077)	-.148* (.074)	.007 (.076)	-.033 (.073)	.555	5.809
Y16	3.377	.457** (.077)	.518** (.094)	.267** (.087)	.431** (.077)	.229** (.081)	-.054 (.081)	.253** (.081)	.117 (.079)	.159* (.079)	.073 (.081)	-.123 (.078)	.091 (.079)	-.009 (.077)	.595	6.820

Table A5.13c. Regression Analysis for Organizational Factors and Alliance Satisfaction Measures

Dependent Measures	Constant	p14	p15	p16	p17	p18	p19	p20	R2	F Statistic
Y4	3.429	-.166* (.071)	-.003 (.070)	.096 (.104)	-.099 (.077)	.027 (.075)	-----	.102 (.073)	.637	8.171
Y5	3.316	-.103 (.063)	-.017 (.063)	-.007 (.093)	-.145* (.068)	.059 (.067)	.077 (.070)	.066 (.065)	.625	7.752
Y6	3.702	.070 (.065)	.035 (.065)	.011 (.096)	.031 (.071)	-.107 (.069)	-.049 (.072)	.088 (.067)	.709	11.319
Y7	3.518	-.143 (.063)	.029** (.063)	.322 (.092)	-.017** (.068)	-.100 (.067)	-.104 (.069)	.032 (.065)	.673	9.561
Y8	3.518	.004 (.068)	-.132* (.067)	.387** (.089)	.097 (.073)	-.045 (.072)	-.051 (.075)	.076 (.069)	.707	11.241
Y9	3.359	-.062 (.060)	.070 (.059)	.189* (.089)	-.003 (.065)	-.091 (.064)	-.023 (.067)	.235** (.062)	.694	10.550
Y10	3.254	-.133* (.058)	-.079 (.058)	-.216* (.085)	.060 (.063)	-.029 (.062)	-.119* (.064)	.084 (.059)	.721	12.014
Y11	3.149	-----	.025 (.061)	.163* (.089)	.049 (.067)	-.022 (.065)	-.129* (.068)	.008 (.063)	.729	12.479
Y12	3.394	.208* (.096)	.074 (.095)	-.306* (.140)	.053 (.103)	-.089 (.102)	.012 (.106)	-.005 (.099)	.532	5.294
Y13	3.394	.142* (.085)	-.022 (.084)	-.134 (.125)	-.069 (.092)	-.002 (.090)	.084 (.094)	.073 (.088)	.546	5.589
Y14	3.342	.215*** (.083)	-.053 (.082)	-.111 (.121)	-.087 (.089)	-.039 (.088)	.075 (.091)	.042 (.085)	.548	5.638
Y15	3.447	.055 (.075)	-.064 (.074)	-.084 (.109)	-.217** (.081)	.068 (.079)	.016 (.083)	.062 (.077)	.555	5.809
Y16	3.377	.069 (.079)	-.066 (.078)	-.206* (.115)	-.075 (.085)	.003 (.084)	-.034 (.087)	.002 (.081)	.595	6.820

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