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DOI:

[10.1016/j.ibusrev.2014.03.005](https://doi.org/10.1016/j.ibusrev.2014.03.005)

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Document Version

Peer reviewed version

Citation for published version (Harvard):

Gomes, E, Barnes, BR & Mahmood, T 2015, 'A 22 year review of strategic alliance research in the leading management journals', *International Business Review*. <https://doi.org/10.1016/j.ibusrev.2014.03.005>

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Available online 13 April 2014 DOI: 10.1016/j.ibusrev.2014.03.005

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A 22 Year Review of Strategic Alliance Research in the Leading Management Journals

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Highlights

- We analyse the contribution of leading management journals to the alliance literature.
- There has been an upward trend in the number of articles over time.
- Most articles are empirical in nature and the number of statistical studies has risen sharply.
- Methodologically, there has been an improvement due to several factors.
- Interest on topics covering the human side of alliances has been increasing recently.

ABSTRACT

This study contributes to the strategic alliance literature by providing a comprehensive review of over 800 articles that have appeared in 22 leading management journals over a 22 year period. Our study reveals that a) there has been an upward trend to publish articles on this subject over time; b) a large proportion of these articles are empirical in nature, with a growing number of them reporting on statistical studies that consider variable association and causality; c) in terms of their methodological rigour we have witnessed relatively larger sized samples, higher response rates and more frequent use of probability sampling; and d) although the majority of articles were written by authors within the same country and these tended to report on alliances involving North American businesses, we find that a variety of thematic areas have emerged, with cross cultural management and other human related facets receiving greater attention in recent times. Finally, we highlight the study's limitations and based on our review, outline several avenues where future research could be undertaken.

Keywords: strategic alliances, joint ventures, network alliances, interfirm partnerships, interfirm collaboration, inter-organizational encounters, review.

1. Introduction

The increasing number of strategic alliances and their dismal failure record has fuelled growing interest and concern among scholars on this topic (Gomes, Weber, Brown & Tarba, 2011). Over the last few decades, researchers from a diversity of theoretical, methodological and contextual backgrounds have explored a wide range of alliance themes (Christoffersen, 2013; Culpan, 2009; Parkhe, 1993a). Most of the earlier studies tended to focus on the pre-agreement phase, including broad aspects such as motives for collaboration, joint ventures (JVs) as strategic choices, partner selection and negotiations and contract (Doz, 1996; Doz, Olk, & Ring, 2000; Glaister & Buckley, 1996; Parkhe, 1993b). More recent research has increasingly shifted attention to aspects related to the post-agreement phase, such as the effective management of alliances, cross cultural understanding and company performance (Brouthers & Bamossy, 2006; Buckley, Glaister, Klijn & Tan, 2009; Christoffersen, 2013; Lee, Kim & Seo, 2013; Luo, 2001; Reuer, Zollo & Singh, 2002; Slater, 2012).

Some studies have also focused on topical areas such as franchising or licensing (Combs, Ketchen, Shook & Short, 2011; Combs & Ketchen Jr, 2003; Jiang, 2012; Shane, 1998; Xia, 2011), strategic alliances and organizational strategy (Datta, Musteen & Herrmann, 2009; Nielsen & Gudergan, 2012; Poulis, Yamin & Poulis, 2012; Ripollés, Blesa & Monferrer, 2012; Yu, Subramaniam & Cannella Jr, 2013), the relationship between internal and external cooperation (Hillebrand & Biemans, 2003; Mudambi & Tallman, 2010; Stettner & Lavie, 2013), small business alliances and networks (Gulati, Nohria & Zaheer, 2000; Koka & Prescott, 2008; Lee, Abosag & Kwak, 2012; Min & Mitsuhashi, 2012), knowledge and learning (Dussauge, Garrette & Mitchell, 2000; Inkpen, 2000; Kale & Singh, 2007; Park, 2012), and the impact of governance on alliance effectiveness (Albers, Wohlgezogen & Zajac, 2013; Barkema, Shenkar, Vermeulen & Bell, 1997; Lui & Ngo, 2012; Park, 2012).

Recently, several emerging aspects including the temporal dimension (Shi, Sun & Prescott 2011), managing alliance portfolios (Das & Teng, 2002; Vapola, Pauku & Gabrielsson, 2010; Wassmer, 2010), risk, trust and control (Anderson, Christ, Dekker & Sedatole, 2013; Costa e Silva, Bradley & Sousa, 2012; Das & Teng, 2001; Inkpen & Currall, 2004; Liu, 2012; Roy, 2012), knowledge management (Dyer & Hatch, 2006; Inkpen, 2008; Inkpen & Beamish, 1997; Kale, Singh & Perlmutter, 2000; Meier, 2011; Shenkar & Li, 1999; Simonin, 2004), organisational justice (Luo, 2005, 2008), and cultural understanding have begun to receive more research attention. As a result, the subject area has evolved in a

fairly fragmented approach where its collective impact has been difficult to recognise (Shi, Sun & Prescott, 2011).

Given the diversity and complexity of the phenomenon and in an attempt to organise and structure the existing body of knowledge, some scholars have undertaken systematic reviews of the alliance literature. This has resulted in attempts to identify the theories used in previous studies in order to understand the rationale for forming inter-organisational relationships (Parkhe, 1993b), alliance portfolios, knowledge management and the behavioural aspects and effectiveness of international strategic alliances (ISA) (Combs, et al., 2011; Meier, 2011; Parmigiani & Rivera-Santos, 2011; Wassmer, 2010). As a result, resource scarcity and agency theories were found to appropriately address specific alliance forms such as franchising (Combs et al., 2011; Combs & Ketchen Jr, 2003; Combs, Michael & Castrogiovanni, 2004). Other theories underpinning research on strategic alliances, include transaction cost economics (TCE), the resource based view (RBV), knowledge based view (KBV), agency theory, social network theory, organizational learning, dynamic capabilities, agency theory, contingency theory, contract theory and resource dependency theory (Parmigiani & Rivera-Santos, 2011).

Some review articles have outlined the methodology employed in detail by specifying a review timeframe, outlining the key search words used (Robson et al., 2006; Shi et al., 2011) and explaining the criteria for inclusion and exclusion of articles reviewed (Meir 2011; Wassmer, 2010). Other articles, however did not disclose these aspects (e.g. Lyons, 1991; Combs et al., 2004). One characteristic which was found to be common in most studies was the formation of a coding framework or adoption of frameworks proposed by other authors (Parmigiani & Rivera-Santos, 2011; Robson, Skarmeas & Spyropoulou, 2006; Shi et al., 2011; Street & Cameron, 2007).

Although such reviews have provided an invaluable contribution to the existing body of knowledge, several shortcomings have been identified. Most examined the strategic alliance literature at different points in time, as a result, very little attention has been given to address the key themes surrounding such research and how it has evolved over time. Also, many of these studies have only tended to superficially address issues relating to the characteristics of authors and concluded very little on the methodological issues applied in researching the topic. For example, previous studies have neglected longitudinal research designs capable of portraying dynamic processes.

The aim of this present study is to assess the contribution of the leading mainstream management journals in terms of publishing research on strategic alliances over a twenty-two

year period (1990-2012). Our decision to focus on the leading management journals is justified due to their rigorous review processes and that they only publish manuscripts of the highest quality in the management domain. The fact that these journals have been operational over a sustained period of time and they have significant impact, are further arguments to support our choice for their inclusion. The fact that we use leading journals from various management areas, including international business, marketing, organization studies, strategy, operation research management and general management enables us to obtain a comprehensive, systematic and multidisciplinary view of the strategic alliance literature in assessing the contribution from various perspectives and methodological stances.

In summary, this study contributes to the strategic alliance literature in several ways. First, it brings to light the actual involvement of the mainstream management journals as sources for publishing research that focuses on this area. Second, it identifies the characteristics of scholars that publish strategic alliance articles in such journals, which may help them to become more aware of work in the domain and foster potential future collaboration with other contributors. Third, it assesses the methodology of such articles, hence, making the most of the merits and preventing drawbacks associated with the extant strategic alliance literature. Fourth, the study will aim to establish trends concerning thematic developments in the strategic alliance arena from the perspective of leading mainstream management journals, thus generating knowledge that can be used as a reference for future research.

The remainder of this manuscript is organised as follows: The next section explains and justifies the research approach used in this study. This is followed by a presentation of the findings corresponding to the objectives along with subsequent discussion. Finally a conclusion is reached, before the limitations of the study are acknowledged and avenues for future research suggested.

2. The Research Approach

The objectives of this study are somewhat exploratory in nature and the approach attempts to bring to light the role and involvement of the leading management journals as a source for publishing research on the subject of strategic alliances. Specifically, the manuscript intends to provide further understanding regarding the characteristics of scholars that have published strategic alliance articles in such journals. It will assess the methodology used in such research and establish trends concerning the thematic development in the strategic alliance

arena. This type of study has not been undertaken previously. Therefore, it should provide some fresh insights into the phenomenon surrounding strategic alliances.

The sampling frame in the current study consists of leading management journals in the areas of international business, marketing, general management, organization studies, strategy and operation research management over a 22 year period, from 1990 to 2012. The journals selected include *Academy of Management Review*; *Academy of Management Journal*; *Administrative Science Quarterly*; *Journal of Management*; *Journal of Management Studies*; *Harvard Business Review*; *British Journal of Management*; *Human Resource Management*; *Industrial Relations: A Journal of Economy and Society*; *British Journal of Industrial Relations*; *Work, Employment and Society*; *Journal of International Business Studies*; *International Business Review*; *Journal of Marketing*; *Journal of Marketing Research*; *Journal of Consumer Research*; *Marketing Science*; *Journal of Retailing*; *International Marketing Review*; *Organization Science*; *Organization Studies*; *Leadership Quarterly*; *Human Relations*; *Strategic Management Journal* and *Management Science*.

The unit of analysis in this study was each article on the topic of strategic alliances that appeared in print in these journals (Babbie, 2012). Instead of using keywords to search for articles (as most review papers do), two trained researchers¹ were tasked with searching each volume and issue. The titles, abstracts and keywords for each article were therefore initially screened and after a more careful examination of each, a total number of 805 articles were selected for inclusion in this study. The papers collected were divided into three time periods: 1990-1997 (174 articles), 1998-2005 (335 articles), and 2006-2012 (296 articles). Considering that data collection took place mid-way through 2012 and assuming that the second half of the year would result in a similar level of publications on the topic, it appears that the number of articles on strategic alliances has been growing, therefore reflecting an increasing interest in the topic.

Every selected article was content analysed by two trained researchers under the supervision of an experienced specialist on the topic. Content analysis is a widely used method in social science research (Krippendorff, 2004). It provides researchers with the opportunity to analyse data over long time periods (Wolf, 2008). This seemed particularly suitable for this study as the time period covered was 22 years. In line with Klenke (2008) and Babbie (2012), a coding schedule was developed with emphasis on undertaking a systematic and replicable investigation of text and documents with the objective of quantifying content using preset categories. Similar to the study undertaken by (Leonidou,

Barnes, Spyropoulou & Katsikeas, 2010), data from each journal article were collected on six key areas:

1. Source and nature of articles: journal name; nature of article, publication year (period);
2. Characteristics of authors: number of authors; number of countries; number of universities; number of disciplines;
3. Research Design: problem crystallization, research study, topical scope, time dimension, communication mode, control of variables, variable relationship;
4. Scope of Research: type of study, focus country, number of countries, type of market, nature of country, unit of analysis;
5. Study Methodology: sample size, response rate, sample design, data collection, data analysis, analytical technique;
6. Thematic Area: strategic aspects, alliance management, shape and design, specialised areas.

Various subcategories i.e. degree of problem crystallization, research study, topical scope, time dimension, communication mode, control of variables and variable relationship were clearly defined to reduce any chance of confusion for the coders. This was important as the research design should clearly specify the procedure relating to the acquisition of data (Emroy, 1976). Degree of problem crystallization refers to the type of study – either formalized or exploratory. With formalized studies, a well-defined structure is in place that has predetermined hypotheses. Exploratory studies meanwhile have loose structures and do not have preset hypotheses. The research study dimension comprises of field and laboratory studies. Field studies relate to the actual environment where the study was conducted. Laboratory studies meanwhile are carried out in a simulated environment (Emory & Cooper, 1985). The topical scope consists of statistical studies and case studies. Statistical studies are commonly concerned with observing and managing numerical data relating to a particular sample. Case studies meanwhile involve gaining in-depth insights relating to one or multiple cases and aim to answer why, what and how questions (Emory & Cooper, 1985).

The time dimension includes longitudinal and cross sectional studies; cross-sectional studies provide a snapshot picture at a given time, while longitudinal studies normally involve repeated research over different time intervals (McNabb, 2012). Communication mode consists of observation and survey. Observation entails analysing the behaviour of a sample. In contrast, surveys are used to collect relatively larger amounts of data (Emory & Cooper, 1985). Two classifications are used for the control of variables i.e. ex post facto or experiment. In ex post facto empirical inquiries, the researcher cannot manipulate variables as they have occurred previously, but in experiments, the researcher is readily able to control

variables (Chandra & Sharma, 2004). In terms of variable relationships, data can be classed as descriptive or causal. Descriptive studies are rigid and involve answering who, what and where questions, while causal studies are fundamentally concerned with explaining relationships between variables (Emory & Cooper, 1985; Marschan-Piekkari & Welch, 2004).

The content dimension of the alliance literature was characterised into four broad areas that reflected the pertinent literature published over the last twenty-two years. During this period scholars have explored a number of topics ranging from different theoretical and methodological approaches and as a result, several research streams have emerged that provide an understanding of the phenomenon from different angles and has led to a somewhat fragmented body of knowledge on the subject (Christoffersen, 2013; Culpan, 2009; Shi et al., 2011). In an attempt to manage the review, and in-line with Parkhe (1993b) and (Gomes, Angwin, Weber & Tarba, 2013), we initially classified data based on the pre and post-agreement phases. This enabled us to capture the contribution from most of the earlier reviews focusing on pre-agreement issues, such as the impact of internal and external factors on strategic alliances, motives for collaboration, negotiation and choice of partner etc.

More contemporary review articles have increasingly focused their attention on the post-agreement phase, including knowledge, risk and alliance management, culture, managing opportunistic behaviour, trust, control mechanisms, failure or alliance exit and performance. Though this was a very laborious, complex and interactive process involving various discussions and consultation with experts, the actual initial theme identification was conducted individually and separately. A database was created to assist with the organisation of this process and after the initial screening; results obtained by each researcher seemed to be reasonably consistent. However, the topics covered in some articles seemed to overlap across different thematic areas, while other topics that were not directly classifiable into the pre or post-alliance phase, started to emerge.

It was noted at this stage that significant research attention had focused on particular issues such as small business alliances and network research, managing alliance portfolios and their outcomes, organisational justice, knowledge management, learning and other emerging themes. The use of previous review papers on the topic also proved useful in assisting with the process (see Appendix 1). After subsequent readings and several discussions, we ended up being able to reduce our initial classification to four broad areas and nineteen subthemes that better reflected the existing body of knowledge and its various strands.

To ensure the validity and reliability of the content analysis undertaken, we followed the procedures recommended by Cohen, Manion, and Morrison (2011). In terms of validity, each dimension and its respective subcategories were carefully identified and defined. Furthermore, to improve reliability, the approach taken by Holsti (1969) was followed, whereby two coders initially analysed the articles separately and then cross checked each other's work to verify consistency of the coding for each dimension and their corresponding categories. The resulting inter-coder agreement was found to be robust enough, showing overall agreement around 85%, with the outstanding discrepancies being resolved through discussion.

3. Findings

This section reports the findings of the content analysis and it should be noted that these findings are strictly limited to the bibliographical assessment of these 22 management journals in question. The findings are divided into six sub-sections; source and nature of articles, authorship characteristics, research design, scope of research, study methodology and thematic areas.

3.1 Source and nature of articles

Assessment of the journals revealed that the *Strategic Management Journal* was the main source of strategic alliance articles (19.6 percent), and over time, it displayed an upward trend to publish more work in this area (Table 1). This seems reasonable, bearing in mind that strategic alliances are a core aspect of corporate governance and strategy. The journals which followed were *International Business Review* (13 percent), *Journal of Management Studies* (9.2 percent), and *Journal of International Business Studies* (8.6 percent). The international dimension surrounding strategic alliances might explain the high level of engagement by *International Business Review* and the *Journal of International Business Studies* to publish work in this area. The journals which followed were *Organization Science* (6 percent), *Academy of Management Journal* (5.5 percent), *International Marketing Review* (5.3 percent), *Organizational Studies* (5.2 percent), *Management Science* (5.2 percent), *British Journal of Management* (3.4 percent), *Journal of Management* (3.1 percent), *Academy of Management Review* (2.7 percent), *Administrative Science Quarterly* (2.2 percent), *Journal of Marketing* (2.2 percent), *Journal of Retailing* (1.9 percent), *Human Relations* (1.7 percent), *Journal of Marketing Research* (1.4 percent), *Harvard Business Review* (1.2 percent) and *Marketing Science* (1 percent). The journals revealing lower levels of engagement with the

alliance literature, each contributing less than 1 percent included: *Leadership Quarterly* (0.5 percent), *Industrial Relations* (0.4 percent), *Human Resource Management* (0.4 percent), *British Journal of Industrial Relations* (0.1 percent) and *Work Employment and Society* (0.1 percent). The very low level of engagement among these five journals is intriguing, given the importance of human aspects, including managing diverse cultures and emotions associated with governing strategic alliances.

Slightly above half of all the strategic alliance articles were empirical in nature i.e. they presented quantitative or qualitative data using primary or secondary sources (53.2 percent). Conceptual articles dedicated solely to formulating theories, ideas and methodological papers concentrating on developing distinct investigation methods were reported in around 21 percent and 7.5 percent of articles respectively. The top three sources for empirical articles on strategic alliances were the *Strategic Management Journal* (36.6 percent), *Journal of Management Studies* (7.7 percent) and *Harvard Business Review* (7 percent). The journals providing most conceptual articles were the *Journal of Management Studies* (12.5 percent), *Journal of International Business Studies* (10.2 percent) and *Organization Science* (10.2 percent). As for methodological papers, *International Business Review* and *Journal of International Business Studies* were at the forefront with contributions of 17.3 percent and 10.5 percent respectively.

Insert Table 1 about here please

3.2 Characteristics of Authors

As expected, single authorship articles were least published – representing just 22.6 percent. Approximately half of the articles (47.2 percent) were written by two authors and almost a third (30.2 percent) were written by three or more people. There was a sharp dip in the number of articles written by two authors during period 2 (1998-2005), but it rose again in period 3 (2006-2012). The number of articles written by people from a single country clearly out-numbered those written by authors situated in three or more countries (67.7 percent Vs 2.9 percent). More than two fifths (44.8 percent) of articles were produced by authors from two institutions and articles written by people from the same institution represented over a third (36.1 percent). Authors publishing in the strategic alliance area tend to be in the same discipline (43.1 percent), although almost the same number of articles (42.1 percent) was written by authors in two disciplines of management.

Insert Table 2 about here please

3.3 Research Design

Over half the articles (54.2 percent) were formalised in nature i.e. they had hypotheses that were developed from the literature, with approximately a third (28.9 percent) being exploratory i.e. they had a somewhat loose structure, without pre-determined objectives. These remained somewhat static over time with a gradual decrease. Articles which required the use of field work to collect data represented 42.5 percent and studies undertaken in simulated lab type settings were rare (1.5 percent). Over half strategic alliance articles (52 percent) were statistically analysed and these tended to rise over time. In comparison, case study articles were published less often (8.7 percent). Almost half of the work reviewed examined cross-sectional data (46.6 percent), and about a quarter (25.6 percent) presented longitudinal data. Around two fifths (42.7 percent) used surveys and observational studies represented only 7 percent of the articles.

Over time, observational studies fluctuated in terms of their frequency, with a decline in period two, followed by an increase in period three. Ex-post facto control of variables were used in slightly over half (53.7 percent) of the studies, with a further 7 percent using experiments. There is an increasing pattern surrounding the usage of ex-post facto variable control. In terms of variable association, causal relationships were examined in slightly over 40 percent of studies. Descriptive statistics meanwhile appeared in approximately a quarter of all studies (23.1 percent) however this represented a decreasing trend, with a preference among editors to publish studies examining causal relationships.

Insert Table 3 about here please

3.4 Scope of Research

Almost half the articles reviewed (42.6 percent) were conducted in a single country context, and they predominantly focused on North America. Notably, single-country studies sharply grew over time (from 28 to 45 percent), which was largely due to the fact that China has become a key focus for scholars. Articles undertaken in cross-cultural settings were infrequent (8.9 percent), as were articles that reported on four or more countries (8 percent).

Interestingly, approximately two-fifths (39.5 percent) of empirical articles did not focus on any particular country, demonstrating that future research on cross-cultural management is warranted.

About one-third (29.7 percent) of the studies reviewed were undertaken in North America, particularly the U.S., while research undertaken in Europe and Asia was also popular (19.1 and 21.5 percent respectively). Notably, articles reporting on research conducted in both Europe and Asia peaked in period two (1998-2005) i.e. 21 percent and 24.5 percent respectively, with North American studies remaining fairly consistent over the three periods. Studies associated with South America have marginally increased over time (from 0.6 to 1.7 percent) – but they don't represent a significant amount of research. Africa is another region of the world where little research has been published (0.6 percent). Almost 43 percent of the articles concentrated on developed countries, mostly North America, Japan and Europe, while the remaining focused on emerging or developing nations – most of these relating to China. The number of articles on developing nations has increased considerably over the time periods covered in this study. There is also an upward trend on research in strategic alliances involving socialist and newly-industrialized countries.

The industrial sector was in the spotlight for much empirical research (35.7 percent), twice the number of articles compared with the service sector and five times more than research focusing on consumer markets. Industrial sector studies have experienced a significant increase over time (from 26 percent to 39 percent), with these focusing mostly on semi-conductors, automobiles, pharmaceuticals, bio-technology and electrical goods. The service sector represented less than a fifth (17 percent) of the empirical articles in total, however, the percentage of research published in this area has increased over time.

Around a third (30.2 percent) of the empirical articles used strategic alliances as their unit of analysis, followed by joint ventures (24 percent). Multinational corporations as well as their subsidiaries contributed to the unit of analysis in approximately 14 percent of the studies. Networks and franchising provided a further 13 percent (7 and 6 percent respectively). Of the remainder, 5.6 percent used the relationship as a unit of analysis, with articles on the subject of licensing being published the least (1.6 percent).

Insert Table 4 about here please

3.5 Study Methodology

In almost a quarter (21.7 percent) of the studies, the sample size ranged between 100 and 249. The sample size that was least used ranged from 500 to 999. In recent times the number of published studies with samples less than 99 has decreased, whereas the use of large samples in excess of 1000 has increased. Over 17.5 percent of the studies had a response rate exceeding 40 percent. In terms of sampling, the method predominantly reported was probability sampling (43.7 percent) and more than two fifths (44.5 percent) of the articles did not mention the sampling design employed. However, non-probability sampling was used in approximately 12 percent of articles. Mail surveys represented the most frequently used method of data collection (26.3 percent), followed by data mining in conjunction with the use of existing data bases (21.4 percent) and personal interviews (15 percent). Secondary data was used in 10 percent of the articles and this approach remained stable over the three periods. Moreover, the use of telephone surveys were the least common method adopted with just 4.3 percent.

Quantitative methods for analysing data were used in a large portion of studies (48.7 percent) and over time we have experienced an increasing trend. This method was frequently used in conjunction with studies using existing data bases, as well as mail surveys. The use of qualitative data analysis was less common (15 percent). The analytical techniques used to analyse data were mostly multivariate, adopting MANOVA, multiple regression and factor analysis. Univariate and bivariate analyses, including Chi square tests and simple regression were also commonly adopted in studies (16.8 percent). The use of descriptive, univariate/bivariate and multivariate analyses have all increased over time.

Insert Table 5 about here please

3.6 Thematic areas

As earlier highlighted, the content dimension of the alliance literature was characterised into four broad areas that reflected the pertinent literature published over the last twenty two years i.e. strategic aspects, alliance management, shape and design, and specialized areas (see Table 6).

Insert Table 6 about here please

3.6.1 Strategic aspects

Four research topics are included in this category, i.e. influential factors on SAs, choice and evaluation of strategic partners, the choice between M&As and alliances, and alliance rationale. Influential factors on SAs have been extensively investigated in around 15 percent of the articles and many of the major issues related to macro environmental factors, such as the impact of the host country's governmental and economic policy on alliances. Meanwhile at the micro level, studies have focused on firm age, collaborative opportunities and institutional governance. Topics relating to the choice and evaluation of partners represented about 4 percent of articles and included topics relating to partners' status, their resource complementarity and social ties. Interest in these areas has steadily increased over time.

Choice between M&As and alliances was examined in almost 6 percent of articles, with a particular focus on uncertainty, capabilities and diversity. The number of articles on this subject has however declined over the years. Topics included under alliance rationale have also experienced a steady decline over time, with resource seeking, international expansion, synergy and cost reduction being among those most investigated in journals. Studies related to synergy have provided insights on knowledge transfer, new technology development, as well as the achievement of economies of scale and scope. In terms of internationalisation, particular attention has been devoted to strategic alliances as a mode of market entry, with specific emphasis on international expansion and the influence of transaction costs. The international expansion of franchising has been a popular topic and so has that of Chinese firms in recent times. This strand of the literature has also provided some attention to cost reduction and investment sharing, with a focus on product development and innovation.

3.6.2 Alliance Management

Alliance management consists of six areas: managing communication; managing risk and opportunistic behaviour; trust, control and confidence; contract and negotiation; commitment; and cultural issues. Of these, the issue of trust, control and confidence were given more emphasis than others (8.9 percent) and have gained attention over time. The focal issues included the impact of trust on knowledge transfer, trust as a substitute for contracts, gaining partner's confidence through trust, control in franchising, as well as firm strategy and control.

The management of risk and opportunistic behaviour was the second most popular alliance management topic (3.9 percent) and seems to be gaining attention over time. Topics of interest in opportunistic behaviour included protecting propriety assets, the impact of opportunism on performance, opportunism in precarious environments, influential factors on partner's opportunistic behaviour, as well as forms, outcomes and solutions for opportunism. Furthermore, in terms of risk and conflict management, there has been an emphasis on managerial views of risk in foreign entry, relational risk and performance risk, conflict due to incompatibility and performance risks relating to alliance objectives.

Managing communication was another topic that emerged in the alliance management literature strand (2.5 percent), although the number of articles on this topic registered a decline in the last period of analysis. Managing communication mainly dealt with the issue of links between communication and commitment, the relationship between communication and coordination, the allocation of communication resources and the effect of collaborative communication on performance. Commitment meanwhile has received very little attention from scholars as only 1.1 percent of articles covered this topic. However, interest in this area seems to have gained momentum in recent times. Its focus has been on the relationship between decision control and commitment, commitment increasing partner attractiveness and contractual commitment as a management mechanism.

The subject of culture appeared in slightly over 3.1 percent of articles and these primarily reported on cultural differences associated with managing international joint ventures. The influence of cultural distance, culture perceived risk and long vs. short term cultural orientation have all been reported on. It is noteworthy that organisational culture received relatively less attention compared with national culture. Negotiation and contractual issues emphasised negotiating payment in contracts, length of contracts, resource specificity and contract complexity, exclusive contracts, negotiation costs, bargaining power and contractual renegotiation. Collectively these represented slightly less than 4 percent of all SA articles.

3.6.3 Shape and Design of SA

Shape and design consists of four themes i.e. types of alliance; alliance portfolio, ownership and formation; alliance structures and network relationships. Around 5 percent of the articles reported on various types of alliances. Such studies mostly focused on equity and non-equity alliances, affiliate and non-affiliate franchising, as well as vertical and retailer alliances. The

interest on alliance portfolio ownership and formation meanwhile has declined over time, from 12 to around 7 percent of articles. The number of studies reporting on alliance portfolios appeared reasonably high at the outset, but these dropped sharply during the second period, though the number of articles on the subject increased again in the third period. The prominent topics included portfolio alliance management, partner attributes in managing alliance portfolios, as well as diversity in alliance portfolio and its link to performance. The determinants of alliance ownership were researched to a lesser extent and its popularity has declined over the time period. Its prime focus had been on the determinants of ownership choice, ownership strategy related to location and organisational advantage, equity ownership based on cultural distance, as well as the patterns of ownership and control.

In terms of alliance formation, the main issues of interest have revolved around the impact of post-formation processes on IJV performance, the impact of mid-level managers on alliance formation, joint venture and alliance consortia and forming alliance processes. Network relationships have also been extensively examined in the existing alliance literature (8.6 percent). The main focus lies on maintaining alliance formations based on networks, the role of business networks and external relations through networks. Finally, alliance structures appeared in 4.6 percent of the articles, with these having a particular emphasis on the differences between IJVs and IAs, piggy backing in franchising, the adoption of co-marketing in strategic alliances and online partnerships.

3.6.4 Specialised areas

This category consisted of five themes: alliance performance, HRM issues, organisational justice, leadership and decision making, knowledge transfer and learning experience. A vast amount of research has been devoted to analysing the antecedents and implications of alliance performance (11.3 percent in total), and the interest on this topic appears to be growing over time (see Christoffersen, 2013 for a detailed review on the topic). Most of the papers looked at performance as a dependent variable, while other articles devoted attention to failure and the instability of SAs.

The number of articles treating performance as a dependent variable has risen considerably over time and major issues influencing performance were key employee appointment, strategy, trust, absorption capacity, product diversification and competitive rivalry. The main issues discussed under alliance instability included conflict, bargaining power and instability surrounding IJVs. The focus of alliance failures consisted of their

planned and unplanned termination, the reasons for such termination, failure due to internal politics, effects of national culture, organization similarity and economic motivation on strategic alliance dissolution. Knowledge transfer, learning and experience were some of the sub-themes receiving high levels of research attention among scholars – representing about 10 percent of publications over the last 15 years. Knowledge transfer appears to be a topical area of research with particular focus regarding its effect on subsidiaries, local alliances, the internationalisation process and employees' learning capabilities. Learning and experience dealt primarily with issues related to the internationalisation process, experience and franchising decisions, the impact of firm experience on governance changes and the influence of experience in foreign market entry.

Organisational justice was the focus of around 1 percent of all articles. Topics covered in this area included interactional justice in different cultures, the impact of procedural fairness on cooperation and the effect of parent control on conflict. Leadership and decision making was also reported in around 1 percent of articles. Issues covered were managerial discretion and decision making autonomy in IJVs, as well as different types of leadership. Human resource management issues were discussed in over 2 percent of articles, and its popularity has been growing steadily over time - with the number of articles trebling during the last two decades. This is not surprising given the significance of HR issues surrounding the management of international strategic alliances. Key points considered in this area relate to job security and the recruitment and retention of key employees.

4. Discussion and Conclusions

This study has offered a systematic, thorough and updated assessment of the strategic alliance literature published in mainstream management journals over a 22-year period. In this context, it has been helpful in discovering the positioning of these journals as to their role in progressing strategic alliance research. The findings provide valuable insights for understanding the advancement of strategic alliance research over time, especially concentrating on articles published in the leading management journals. The research also offers clues with regards to conceptual, methodological and empirical trends developed in the strategic alliance area, as well as providing a pool of knowledge that can be used as a small contribution to future research.

Earlier reviews have tended to focus on specific aspects of strategic alliances and employed a wide variety of theories such as agency theory, knowledge-based theory and transaction cost theory to explain certain topics. Despite their usefulness, these extant reviews

have several limitations. For example they covered relatively short time periods, thus did not identify particular trends. They also disclosed very little about the methodological aspects of such studies and failed to analyse authorship characteristics, research design and the scope of such studies. In filling this gap, this article adopted a longitudinal design to analyse journals over a long period in order to establish trends.

Our findings demonstrate that the leading management journals have been instrumental in generating and disseminating knowledge on strategic alliances. They have introduced important theories and ideas; moreover, the journals vary in terms of how they view the subject. A vital conclusion that can be drawn from the assessment of strategic alliance articles published in these leading journals is the pivotal role played by them in shifting emphasis from exploratory towards formalised research. The high standards associated with such journals have contributed to a gradual improvement in terms of the sophistication of studies in the discipline over time. The fact that a large amount of strategic alliance articles appearing in these journals are of an empirical nature, demonstrates that there has been inclination to improve the subject's scientific status (Leong, 1985). Conceptual studies have been crucial in constructing models, suggesting theoretical paradigms and developing research questions. However, the testing of systematic frameworks adds more value to the subject.

Our findings reveal that multiple country authorship has witnessed a downward trend. This is intriguing since the topic revolves around inter-organisational collaboration. There is however a need for joint effort to advance our understanding on the subject. The majority of research papers predominantly involve authors from a single country, which indicates a trend towards approaching strategic alliance phenomena primarily from single country perspectives. To realise a comprehensive, cross-cultural knowledge of the subject, it is imperative to call for more synergy among scholars from different corners of the world. A considerable amount of articles were interdisciplinary in nature which is a positive development as it allows for the cross-fertilization of ideas. However, the difference in the number of articles written by authors from the same discipline and from two different disciplines was marginal.

The research design of strategic alliance articles has become gradually more systematic in nature, as evident in the increasing use of formalised processes and causal variable association. One issue of concern may possibly relate to heavy emphasis on cross-sectional studies. The low use of longitudinal designs can be attributed to time and resource constraints. However, by employing case studies and longitudinal designs, researchers can

gain in-depth knowledge and are more able to track trends. Surveys were the most commonly used data collection method, while collecting data by means of observation was restricted to a low number of articles. The high emphasis on surveys clearly indicates a preference in gaining more pragmatic knowledge of strategic alliance activity by studying firms in realistic as opposed to simulated contexts.

Overall, the scope of strategic alliance research published in the mainstream management journals is mixed. For example, there was sufficient coverage of single country studies, opposed to cross-cultural and comparative studies. Consequently, this single country focus limits our understanding of strategic alliances in cross-cultural settings. The geographical focus has predominantly been North America and Asia. However, the scope could be broadened to other emerging BRICS economies such as Russia, India, Brazil and South Africa. The majority of articles have concentrated on developed countries, however, the number of articles on developing nations has increased significantly over time, which is consistent with the growing importance of such economies in the international business arena (Luo, Shenkar & Nyaw, 2001). There was an upward trend in research on strategic alliance activity in socialist and newly industrialized countries. This might reflect to some extent, the adoption of free market economies in the early 1990s among socialist countries. The industrial sector has been heavily researched compared with service and consumer market studies. To some extent this reflects the heavy involvement of companies manufacturing industrial goods in an international context, which might be ascribed to the fact that most studies were undertaken in developed nations. It would be beneficial to extensively study strategic alliances in the services sector. The unit of analysis ranged from multinational HQs to subsidiaries, strategic alliances, joint ventures, franchising, licensing, networks and relationships. Licensing as a unit of analysis was the least explored, suggesting there is a need to conduct more research in this area.

Methodologically, the strategic alliance literature could be depicted as undergoing systematic improvement. This is evident from the use of robust sample sizes, high response rates and probability sampling. All these have contributed to us gaining representative, reliable and valuable findings on strategic alliance issues. Nevertheless, there is still room for further improvement in terms of the use of sophisticated statistical methods as well as the modification of measurement scales to suit individual countries.

While previous reviews have tended to focus on specific aspects of strategic alliances, hence providing a deeper understanding of each focal area, e.g. alliance rationale, choice of alliance type, and partner selection (Combs & Ketchen Jr, 2003; Combs et al., 2004; Parkhe,

1993b), the relationship between internal and external cooperation (Hillebrand & Biemans, 2003), small business alliances and network research (Street & Cameron, 2007), the role and impact of directors on international joint ventures (IJV) (Petrovic, Kakabadse & Kakabadse, 2006), knowledge management (Kale et al., 2000; Lane, Salk, & Lyles, 2001; Meier, 2011; Simonin, 2004), alliance process management and alliance outcomes (Christoffersen, 2013; Ren, Gray & Kim, 2009; Robson et al., 2006), alliance portfolios (Wassmer, 2010), and the temporal dimension of alliances (Shi et al., 2011), our review provides a broad and holistic view of the state of the alliance literature covered by leading mainstream management journals. The articles investigated in this review covered a wide range of topics, with some areas appearing more frequently than others. Three broad themes did however tend to emerge from the literature, these namely related to strategic aspects, alliance management and the shape and design of alliances. There was also a host of work that appeared to relate to more specialised areas.

Our review has identified several differences relating to the evolution of themes with some areas showing a clear increase in their popularity over time and others experiencing a decline. For example, in terms of strategic aspects, topics related to alliance rationale have experienced a steady decline over time. This is reflected in the fact that the main review focused on this particular topic was undertaken around two decades ago by Lyons (1991). In contrast, the choice and evaluation of strategic partners appears to play a significant role in contemporary research, particularly due to the growing importance associated with partner selection in strategic alliance activities. The contribution of these leading journals to some aspects related to alliance management such as trust, confidence and control has been particularly significant and growing over time. The focal issues have included the impact of trust on knowledge transfer and trust as a substitute for contracts. Intriguingly, with the exception of the reviews by Combs and Ketchen Jr (2003) and Robson et al. (2006), which provide some insights on gaining partner's confidence through trust and control in franchising, no other reviews have dedicated particular attention to these topics. The contribution of these leading journals to an understanding of the management of cultural differences in international strategic alliances has been significant over the years, particularly in terms of an understanding of the influence of distance, perceived risk and long vs. short term cultural orientation. However, it is at least intriguing that no previous review has devoted total attention to this topic.

In terms of specialised topics, these journals have demonstrated a growing interest in alliance performance, an aspect that is likely to remain topical due to fierce competition and

high failure rates. This is in-line with a previous review of 165 cross-sectional alliance studies by Christoffersen (2013) who identified the main antecedents of performance in international strategic alliances (ISAs). In addition, Ren et al. (2009) not only reviewed the influential factors of alliance performance, but also provided an understanding of how such factors interact. Knowledge management has also become a key research area within the alliance literature (Kale et al., 2000; Lane et al., 2001; Meier, 2011; Simonin, 2004), with the most comprehensive review being undertaken by Meier (2011), who developed a comprehensive framework pertaining to the structure of knowledge management.

In contrast, and in terms of relatively neglected areas, negotiation has been under researched and will continue to play a crucial role in the success of strategic alliances at the pre and post agreement phase. Similarly, organisational justice, including aspects related to interactional justice and its emotional aspects has been somewhat under researched and this is surprising bearing in mind that a lack of this can lead to low commitment and performance in alliance relationships. Also, as previous research has revealed the significance between cultural differences and justice perception, future research should be channelled towards providing us with further insights of these key, but under researched areas relating to strategic alliances. Other emerging themes such as leadership, decision making and HRM also warrant greater research attention from scholars. Given the human dimension associated with SAs, it is not surprising that the number of articles related to HRM issues has trebled over the last two decades. Nevertheless, research in this area is scant, suggesting that more studies need to be undertaken here. Though previous reviews have provided fresh insights into the various facets of strategic alliances, many important topics have not been covered in such reviews. This study therefore provides some useful insights that can provide the basis for further investigations into strategic alliances in a more systematic, thorough and effective manner.

Interestingly, research on pure theory development has gradually lost its popularity over time. Despite a general understanding that theory is useful for structuring knowledge in a systematic way, there remains a constant need to focus on theory advancement which plays a crucial role in sowing the seeds for the subject to develop further. Although there have been a few review articles on the subject of strategic alliances, there is a need for more, particularly periodic assessment, as undertaken in this study, in order to provide a platform for future research to evolve.

Despite the various contributions of this study to the existing body of knowledge on strategic alliances, there are also several limitations associated with it. First, the research was restricted to twenty two leading management journals and we therefore acknowledge that

several other excellent management journals have also made important contributions to the field of strategic alliances. Given the importance of the human aspect associated with strategic alliances and the relatively limited contribution of human related journals in this area, it may prove fruitful for such journals to further consider advancing knowledge in this area. Perhaps further special issues relating to the human side of alliances, particularly on managing culture and individuals' emotions that are vital for contributing to the longevity of SAs could be considered by the managing editors of these journals.

Second, although our findings are of particular importance for scholars involved in the theoretical development of the subject, they are likely to be of less relevance to practitioners. Further review articles could therefore aim to consider the wider practical implications of such studies and likewise provide a thematic review relating to published manuscripts and how they may impact practitioners. Third, since we did not intend to undertake a bibliometric exercise, future reviews on the subject could consider using citation analysis to assess the impact of scholars and papers on the existing body of knowledge in the area of strategic alliances. Such research in these areas has the potential to provide additional insights that will make an incremental contribution to the subject further.

ENDNOTE

1. The two researchers were briefed by a Professor who had previously undertaken and published similar review articles in the management discipline. One of the team was an author and the other was a research assistant tasked with helping on this project.

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Table 1: Share of leading management journals in the publication of strategic alliance-related articles

	Time period				Article type			
	Total (n=805) %	1990-1997 (n1=174) %	1998-2005 (n2=335) %	2006-2012 (n3=296) %	Conceptual (n1=168) %	Methodological (n2=63) %	Empirical (n3=428) %	Other (n4=146) %
Management journals								
Academy of Management Review *	2.7	3.5	2.7	2.3	8.4	0.9	0	0
Academy of Management Journal *	5.5	5.8	6.6	3.9	8.4	5.8	1.4	1.4
Administrative Science Quarterly *	2.2	0.6	2.4	2.7	2.4	1.6	4.2	4.2
Journal of Management	3.1	0	4.8	3	2.9	1.6	2.1	2.1
Journal of Management Studies	9.2	11.1	7.2	10.3	12.5	8.4	7.7	7.7
Harvard Business Review	1.2	5.3	0	0.3	0	0	7	7
British Journal of Management	3.4	4.7	1.5	4.7	1.8	3.5	5.6	5.6
Industrial Relations: A Journal of Economy and Society	0.4	0	0- ..6	0.3	0	0.2	1.4	1.4
British Journal of Industrial Relations Work, Employment and Society	0.1	0	0	0.3	0	0.2	0	0
Management Science *	5.2	8.2	2.4	6.6	7.2	4.2	5.6	5.6
Journal of International Business Studies	8.6	13.5	7.8	6.6	10.2	10.5	1.4	1.4
International Business Review	13	8.8	16.5	12	7.2	17.3	4.2	4.2
Journal of Marketing *	2.2	0	2.1	3.7	2.9	2.3	0	0
Journal of Marketing Research *	1.4	2.3	1.2	1	0	1.9	2.1	2.1
Marketing Science *	1	2.3	0.6	0.7	2.4	0.7	0.7	0.7
Journal of Retailing	1.9	1.8	0.3	3.7	0.6	2.3	1.4	1.4
International Marketing Review	5.3	5.8	5.1	5.3	1.8	6.8	6.3	6.3
Organization Science *	6	0	8.7	6.3	10.2	5.6	2.1	2.1
Organization Studies	5.2	5.3	6.3	3.9	7.8	4.2	7.7	7.7
Leadership Quarterly	0.5	1.2	0	0.6	0.6	0.5	0.7	0.7
Human Relations	1.7	2.9	2.1	0.6	1.2	2.1	1.4	1.4
Human Resource Management	0.4	0	0.6	0.3	1.8	0	0	0
Strategic Management Journal *	19.6	16.4	20.4	21	8.9	19	36.6	36.6

Table 2: Authorship characteristics of strategic alliances-related articles

Authorship characteristics	Total (n=805) %	Time period			Trend direction ^a
		1990- 1997 (n1=171) %	1998- 2005 (n2=333) %	2006- 2012 (n3=301) %	
<i>Number of authors</i>					
One	22.6	31.5	13.1	17.2	v
Two	47.2	49.2	29.4	43.9	v
Three or more	30.2	18.1	57.6	38.8	^
<i>Number of countries</i>					
One	67.7	76.4	65.7	65.3	↓
Two	29.4	22.4	31.9	30.9	^
Three or more	2.9	1.1	2.4	3.7	
<i>Number of institutions</i>					
One	36.1	31	40.6	34.1	^
Two	44.8	50	42.7	44.3	v
Three or more	19	18.9	16.7	21.6	v
<i>Number of disciplines</i>					
One	43.1	32.2	45.9	46.2	↑
Two	42.1	48.8	38.8	41.8	v
Three or more	14.8	18.9	15.2	11.8	↓

Note: ^a(↑) increasing, (↓) decreasing, (^) increasing and then decreasing, (v) decreasing and then increasing, and (↔) stable

Table 3: Research design of strategic alliance articles

Research design	Total (n=805) %	Time period			Trend direction ^a
		1990-1997 (n ₁ =174) %	1998-2005 (n ₂ =335) %	2006-2012 (n ₃ =296) %	
<i>Problem crystallization</i>					
Exploratory	28.9	31	31.1	25.3	^
Formalized	54.3	50	48.8	62.8	v
Others	16.8	18.9	20	11.8	^
<i>Research environment</i>					
Field	45.2	33.9	51.5	44.9	^
Laboratory	1.5	1.1	0.9	2.4	v
Others	53.3	64.9	47.6	52.7	v
<i>Topical scope</i>					
Statistical study	52.0	36.2	51.8	61.8	↑
Case study	8.7	8.04	8.4	9.1	↑
Others	39.3	55.7	39.8	29	↓
<i>Time dimension</i>					
Cross-sectional	46.6	44.3	47.5	47	↑
Longitudinal	25.6	20.1	25.7	28.7	↑
Others	27.8	35.6	26.9	24.3	↓
<i>Communication mode</i>					
Survey	42.7	32.7	50.5	40	^
Observational	7.0	5.7	5.1	9.7	v
Others	50.3	61.4	44.4	50.2	v
<i>Control variables</i>					
Ex-post facto	53.7	35.6	55.7	62.1	↑
Experiment	7.0	12.6	6.6	4.1	↓
Others	39.4	52	38	33.7	↓
<i>Variable association</i>					
Descriptive	23.2	37	21.8	16.6	↓
Causal	40.5	21	39.8	53.2	↑
Others	36.3	42.5	38.2	30.2	↓

Note: ^a(↑) increasing, (↓) decreasing, (^) increasing and then decreasing, (V) decreasing and then increasing, and (↔) stable

Table 4: Scope of research for strategic alliance articles

Scope of research	Total (n=805) %	Time period			Trend direction ^a
		1990-1997 (n ₁ =174) %	1998-2005 (n ₂ =335) %	2006-2012 (n ₃ =296) %	
<i>Types of study</i>					
Single country	42.6	28	45	49	↑
Cross-cultural	8.9	15.5	7.8	6.4	↓
Comparative	1.5	1.7	2	0.7	↓
Others	6.2	6.9	7.5	4.4	^
None	39.5	47.1	38	36.8	↓
<i>Focus country</i>					
North America	29.7	32.1	29	29.1	v
South America	1.2	0.6	1.2	1.7	↑
Europe	19.1	16.1	21	19	^
Asia	21.5	19	24.5	20	^
Africa	0.6	0	0.9	0.3	^
Others	4	6.3	2.7	4.1	v
None	39.6	44.8	38.2	37.8	↓
<i>No. of countries</i>					
One	43.6	28.2	11.4	50	v
Two	7.1	10.3	3.4	4.1	v
Three	1.2	2.3	1	1	↓
Four or more	8	10.3	0.3	7.1	v
None	40.1	49	0.1	37.5	v
<i>Types of market</i>					
Consumer	7.3	7.5	7.5	7.1	↔
Industrial	35.7	26	38.2	39	↑
Services	17	13	15.8	21	↑
Others	5.7	9.2	5	4.4	↓
None	46.6	42.3	45.6	44.3	^
<i>Types of country</i>					
Developed	42.9	42.5	44	41.9	^
Newly-industrialised	1	0.6	0.9	1.4	↑
Developing	16.9	10.3	18.2	19.3	↑
Socialist	6.5	4	6.3	8.1	↑
Others	2.7	4	1.9	2	v
None	40.4	48.3	37.6	39	v
<i>Unit of analysis</i>					
Multinational HQ	10.9	11	10.7	11	↔
Subsidiary	2.9	2.3	4.5	1.4	↓
Strategic Alliances	30.2	24.1	33	30.4	^
Joint Venture	24	27	28.4	10.3	^
Franchising	6	5.2	3.6	9.1	v
Licensing	1.6	0.6	1.5	2.4	↑
Networks	7	9.8	6.9	5.4	↓
Relationships	5.6	5.2	3	8.8	v
Others	7.5	5.7	5.9	10	↑
None	6.8	9.8	5.3	6.8	v

Note: ^a(↑) increasing, (↓) decreasing, (^) increasing and then decreasing, (V) decreasing and then increasing, and (↔) stable, HQ, headquarter

Table 5: Study methodology of strategic alliance articles

Study methodology	Time period				Trend direction ^a
	Total (n=805)	1990-1997 (n ₁ =174)	1998-2005 (n ₂ =335)	2006-2012 (n ₃ =296)	
<i>Sample size</i>					
99 or less	17.8	18.4	20.9	13.9	^
100-249	21.7	21.9	22.4	20.8	^
250-499	12.3	10.3	12.8	12.9	↑
500-999	7.7	6.4	5.9	10.5	v
1000 or more	9.1	5.7	7.5	12.8	↑
None	31.4	37.3	30.4	29.1	↓
<i>Response rate</i>					
19% or less	4.2	1.1	3	7.4	v
20-29%	6.5	6.3	6.3	6.8	↔
30-39%	7.7	7.5	9.9	5.4	^
40% or more	17.5	19.5	20	13.5	^
None	64.1	65.5	60.9	66.9	↔
<i>Sampling design</i>					
Probability	43.7	40.2	46.2	43	^
Non-probability	11.8	13.2	10.2	12.8	v
None	44.5	46.6	43.6	44.2	↔
<i>Data collection</i>					
Secondary info	10.1	9.8	10.1	10.1	↔
Existing database	21.4	15.5	21.5	25	↑
Mail survey	26.3	23.1	28.4	26	^
Telephone survey	4.3	6.9	3.3	4.1	v
Personal interview	15	10.3	17.6	14.9	^
Other	8.3	8	7.2	9.8	v
None	25	9.8	23.9	21	^
<i>Data analysis</i>					
Qualitative	15	12.1	17.9	14	^
Quantitative	48.7	42	49	52.4	↑
Modelling(formula)	10.2	11	9.3	10.8	v
Other	5.7	4	6	6.4	↑
None	25.1	31.6	24.5	22	↓
<i>Analytical Technique</i>					
Descriptive	22.2	17	23.6	24	↑
Uni-/Bivariate	16.8	13	17.3	18.6	↑
Multivariate	36	34	36	37.2	↑
Other	8.4	7.5	9	8.4	v
None	28.9	38	28.7	24	↓

Note: ^a(↑) increasing, (↓) decreasing, (^) increasing and then decreasing, (v) decreasing and then increasing, and (↔) stable

Table 6: Thematic areas of strategic alliance-related articles published in top management journals

Thematic area	Time period				Trend direction ^a
	Total (n=805)	1990-1997 (n ₁ =174)	1998-2005 (n ₂ =335)	2006-2012 (n ₃ =296)	
<i>Strategic Aspects</i>	%	%	%	%	
Influential factors on S.A.	14.9	12.1	16	15.9	v
Choice and evaluation of strategic partner	4	2.9	4.2	4.4	↑
Choice between M&A and Alliance	5.7	6.3	5.7	5.4	↓
Alliance rationale	6.0	13.8	5.4	2.4	↓
<i>Alliance Management</i>					
Managing communication	2.5	1.1	3.9	1.7	^
Managing risk & opportunism	3.9	2.8	4.2	4	^
Trust, control and confidence	8.9	6.9	9.3	9.8	↑
Contract & negotiation	3.7	1.7	6.0	2.4	^
Commitment	1.1	1.7	0.6	1.4	v
Cultural issues	3.1	5.2	1.8	3.4	v
<i>Shape and Design</i>					
Types of alliance	5.1	5.7	4.5	5.4	v
Alliance portfolio, ownership, and formation	6.5	12	6	6.8	v
Alliance structures	4.6	3.4	4.2	3.7	^
Network relationships	8.6	9.8	8.1	8.4	v
<i>Specialised areas</i>					
Alliance performance	11.3	8	10.7	13.9	↑
HRM issues	2.4	1.1	2.4	3	↑
Organizational justice	1	1.1	1.2	0.7	↔
Leadership and decision making	1.1	0.6	1.2	1.4	↑
Knowledge transfer, learning and experience	9.4	5.7	10.8	10.1	^

Note: ^a(↑) increasing, (↓) decreasing, (^) increasing and then decreasing, (V) decreasing and then increasing, and (↔) stable, S.A: Strategic alliances, HRM: Human resource management.

APPENDIX 1: Previous reviews of the strategic alliance literature

Author(s)	Year	Source	Title	Methodology	Theory
Christoffersen	2013	International Journal of Management Reviews	A Review of Antecedents Of International Strategic Alliance Performance: Synthesized Evidence and New Directions for Core Constructs	Systematic review	Transaction cost theory Resource based theory
Shi, Sun & Prescott	2011	Journal of Management	A Temporal Perspective of Merger and Acquisition and Strategic Alliance Initiatives: Review and Future Direction	Systematic review	Organization theory Transaction cost theory Real options theory
Meier	2011	International Journal of Management Reviews	Knowledge Management in Strategic Alliances: A Review of Empirical Evidence	Systematic review	Knowledge base theory Agency theory
Parmigiani & Santos	2011	Journal of Management	Clearing a Path through the Forest: A Meta Review of Interorganizational Relationships	Meta-review	Organization theory Agency theory
Wassmer	2010	Journal of Management	Alliance Portfolios: A Review and Research Agenda	Conceptual	Social network theory Resource based theory
Culpan	2009	International Journal of Strategic Business Alliances	A fresh look at strategic alliances: research issues and future directions	Systematic review	
Ren, Gray & Kim	2009	Journal of Management	Performance of International Joint Ventures: What Factors Really Make a Difference and How?	Systematic framework	Power-dependence theory Real options theory
Street & Cameron	2007	Journal of Small Business Management	External Relationships and Small Business: A Review of Small Business Alliances and Network Research	Meta-analysis	Resource based theory Power-dependence theory
Nippa, Beechler & Klossek	2007	Management & Organization Review	Success factors for Managing International Joint Ventures: a Review and an Integrative Framework	Theory-based framework	N/A
Robson, Skarmas & Spyropoulou	2006	International Marketing Review	Behavioural Attributes and Performance in International Strategic Alliances Review and Future Direction	Theory-based framework	Agency theory
Petrovic, Kakabadse & Kadabadse	2005	Management Decision	International Joint Venture (IJV) Directors' Contribution to Board Effectiveness: Learning from the literature	Theory-based framework	N/A
Combs, Michael & Castrogiovanni	2004	Journal of Management	Franchising: A Review and Avenues to Greater Theoretical Diversity	Meta-review	Resource scarcity, agency theory
Combs & Ketchen	2003	Journal of Management	Why Do Firms Use Franchising as an Entrepreneurial Strategy? A Meta- Analysis	Meta-analysis	Resource scarcity, agency theory
Hillebrand & Biermans	2003	Journal of business research	The relationship between internal and External Cooperation: Literature Review and Propositions	Theory-based framework	Exploration/exploitation framework
Robson, Leonidou,	2002	Management	Factors influencing international joint venture performance:	Systematic	N/A

and Katsikeas		International Review	theoretical perspectives, assessment, and future directions	review	
Parkhe	1993	Academy of Management Review	Messy' research, methodological predispositions, and theory development in international joint ventures		
<u>Lyons</u>	1991	Long Range Planning	Joint-Ventures as strategic choice- A literature review	Theory-based framework	N/A

Note: N/A refers to not available