Practices in Software Outsourcing Partnership: Systematic Literature Review Protocol with Analysis

Sikandar Ali[1, 2*], Li Hongqi[1], Siffat Ullah Khan[3], Yang Zhongguo[1]

[1] Beijing Key Lab of Petroleum and Data Mining, Department of Computer, China University of Petroleum, Beijing 102249, China.
[2] Department of Computer and Software Technology, University of Swat, Pakistan.
[3] Department of Computer Science & IT, University of Malakand, Lower Dir, Pakistan.

* Corresponding author. Tel. +8615611818230; +923339498398; email: hqsikandar@yahoo.com
Manuscript submitted August 27, 2017; accepted November 22, 2017.
doi: 10.17706/jcp.13.7.839-861

Abstract: Software outsourcing partnership (SOP) is a type of client-vendor cooperative relationship for achieving mutually beneficial goals and is totally based on mutual trust and commitment. Usually a fruitful outsourcing association may possibly convert to outsourcing partnership. The development of SOP depends on the employment of various factors like 'mutual inter-dependence and shared values', 'organizational proximity', 'mutual trust', 'effective and timely communication' and 'quality production'. The objective of the research is to find out practices through Systematic literature review (SLR). These practices will be used to implement critical factors in SOP. We have identified a list of 142 'practices' for 14 critical factors through SLR methods. This paper presents preliminary frequency analysis on practices in SOP. We have distributed studies found on publication venue, organization size, collaboration model used, study quality and year. Further, we have listed top venues and authors. The results might benefit the researcher interested in knowing about who involved in outsourcing partnership. Our outcomes can help practitioners working on outsourcing collaboration in the software development industry. They can determine from the results of the study where to outsource and which are the emerging countries in software outsourcing.

Key words: Systematic literature review, software outsourcing, practices/solutions, partnership.

1. Introduction

Collaborative relations such as outsourcing partnership over passing the traditional organizational limits and are an essential measure of today's trade success. Organization that struggles for competitive advantages via mutual aid creates new inter-organizational as well as intra-organizational arrangements and nets. Organizational relations in these nets go yonder the old-style order and supply sequence trades. In this type of relation, everything like investments, risks, profits and loss of joint struggles are distributed amongst allies. Long lasting corporate relationships are made based on reciprocal trust. Collaboration generally helps in reducing the expenditures of attaining and applying appropriate expertise and competencies required for an efficient professional development. Collaborative associations are typically called associations, alliances, coalitions, joint ventures or partnerships [1]-[3].

In the course of the earlier two decades, partnerships have emerged is one of the key stratagems for growing organization, in order to stay in the market competition [4]. Partnership is a cooperative association among autonomous organization(s). Partnerships might benefit organization to persist in

competition by increasing efficiencies [4], joining new markets [5], giving new produces and gain access to new resources pool [6].

Due to big economic changes, globalization, antagonism from low remuneration unindustrialized countries, and improvements in information technology (IT). From 1980 onwards various types of business networks have been shaped such as strategic networks, multi-vendor contracts, different kinds of association, alliances, coalition, joint ventures, and partnership etc [7], [8]. Obliviously different kinds of companies having not the same kind of needs, consequently considerably many kinds of associations are obligatory [9]. Software development (SD) companies now use a widespread diversity of methods to source SD work; they outsource, develop in-house, broaden in-house competence through acquirements, and shape joint ventures or partnerships with oversea organizations [9].

According to Kishore [10], outsourcing associations can be branded into four brands. These are ordered as 1st Support, 2nd alignment, 3rd reliance and 4th alliance. A collaborative relationship with low control and high trust in executing the contract is term as an alliance. Outsourcing partnership is one type of an alliance [11]. Outsourcing partnership is a type of business alliance that is a combination of both partnering and outsourcing thus thoughtful understanding of both term is obligatory to understand the collective terms outsourcing partnership. Kinnula *et al.* [12], express outsourcing as "The process of transferring the responsibility for a specific business function from an employee group to a non-employee group".

Software Outsourcing partnership (SOP) is a relation for a long time based on the renegotiations of mutual adjusted task and commitment that supersede the stated contractual terms and conditions as specified in the opening stage of the alliance [13]. It is flexible, long term and based on sharing of risks, benefits, future goals and visions. In practice, only a fruitful outsourcing relationship is a candidate for promotion to outsourcing partnership [10]. It cannot be instantly developed, but rather, it shapes with the passage of time [12]. A key difference in SOP and ordinary outsourcing is in their level of depth; SOP is a deeper relationship [8]. A relationship is said to be SOP, where the parties share confidential information about future plans, work together, combine resources, share risks and benefits, and make joint decisions to achieve mutual advantageous results [14]. Outsourcing partnership is a good tool to overcome technological uncertainty, because it can effectively be dealt with uncertainty, by sharing information of unexpected events in developments [15]. In joint venture, literature partnerships are relationships with certain characteristics to build trust [16]. The main difference between partnership and contractual relationship is that in partnership relationship the stress is given on trust and achieving general business goals while in a contractual relationship the stress is given on the obligation of a formal contract and on achieving specific business goals. In summary, partnerships are about relationships, not contracts [16].

In management manuscripts, the partnership has been explored extensively [17]. For example, the collaboration between firms has examined in the marketing discipline [18], partnership between producers and suppliers [19], manufacturers and sales agents [20], buyers and sellers [21] as well as auditors and clients [22]. While in computer literature empirical literature survey on the partnership relationship started to grow after 2000 in the Europe, America, and Asia. For the present study, a partnership is a mutually beneficial, unceasing and long lasting relationship, in which future plans, visions, and confidential information are shared with partner organizations willingly and proactively in demand to help each other in focusing on their capitals in the correct track [23].

According to Kedia and Lahiri [23], the organizational business related work is currently endorsing extensive outsourcing of production work from developed nations such as the United State to numerous overseas outsourcee such as China, India, Ireland, Malaysia, Ukraine, Philippines, Russia, Pakistan and Latin America etc. This increase occurs because to stay alive in the current highly competitive industrial setting, a lot of new organizations involved in global outsourcing of product and services. Regardless the growths of

international collaboration, the studies of partnerships between client and their foreign vendor have not attained sufficient consideration in the academic literature.

In order to identify SOP solution/practices for the execution of various Success Factors (SFs) from the perspective of a vendor, we have verbalized the following research question (RQ).

RQ1. What are the solution/practices, as reported in the literature for the employment of various factors in SOP from vendor's perspective?

2. Background

In literature, outsourcing partnership is divided into three diverse perspectives, (1) economic, (2) social and (3) strategic management [24]. The first one is based on two theories i.e agency theory and transaction cost theory. It looks at governance, coordination, productivity and financial connections between firms [25]. But it does not focus on reasons for outsourcing besides cost efficiency [24]. Social perspective is also based on two theories i.e relational exchange and social exchange, it emphases on the existence of trustful client-vendor relationship [24]. It is distinguished from the others by the fact that it focuses on the issues such as mutual trust, equity, and cooperation. Further, there are communal goals and a written bond of mutual sureties between the parties [26]. Here the formal contract exists but it is not enough alone for the success of outsourcing arrangements [27]. In this perspective dissolution or extension of a relationship is grounded on the bi-directional agreement [25]. The third and last one is based on the theory of resource dependency, it explains how firms achieve desired goals by implementing outsourcing paradigm [24]. However, it does not consider the issue of relationship management [24]. Previous research [28] classify the organizational relationship into two types:

A. *Transactional style:* This type of relationship is built through a proper agreement, here the procedures are well stated and in the case of disappointment to deliver the said services by any party is set on through a court case or forfeit as defined in the bond.
B. *Partnership style:* It is based on sharing of risk and benefit. This type of relationship is view as a sequence of connections without a fixed endpoint, it requires to establish a way for monitoring and executing its processes [29].

From partnership view point, there are dual outsourcing types.

A. *Service outsourcing:* Here, system integration services are provided without asset transfer.
B. *Asset outsourcing:* It involves shifting of people hardware, and software to partner site [30].

2.1. Existing Literature

A numeral investigators have shed light on some of the problem of SOP, such as Kedia and Lahiri [23], li [31], Lai [32] roses *et al.* [33], Dwyer [21], Yilitalo [34] kinnula [12], Ellram [35], Tuten and Urban [36], Kinnula and Juntunen [37], Hussein [38], Flemming and Low [39], Garousi [40], Bocij [41], Piltan *et al.* [42]. Summary of few of these are presented as follow:

Recently published studies by Lai [32], on the factors affecting partnership quality between service receiver and providers in outsourcing ventures. It also shed lights on the connection flanked by the quality of partnership in outsourcing and the ultimate attainment of outsourcing benefits. The results show that factors such as shared knowledge positive effect on shared benefits, organizational linkage positive affect commitment and predisposition, bi-directional dependency positive effect on mutual benefits, commitment and predisposition, and commitment have positive effect on outsourcing success.

Garousi *et al.* [40], conduct a study to find a list of practices for arrangement and steering collaborative projects. Through thematic exploration, they acknowledged ten risk factors and seventeen solution groups. A notable findings of the study was the indication of best solution i.e the most common ones ensure management meeting, the requisite for a supporter, be agile throughout the partnership, and shifting of the

investigator to the industrial environment.

Developing a fruitful long lasting cooperative correlation among two diverse organizations appears to be more complicated and demanding as generally expected. According to Dwyer [21], development of partnership is a multi-dimensional practice in which psychosocial, economic and legitimate procedures are concurrently proceeding. Common objectives and directions, better communication, reciprocal trust and assurance and partner compatibility are the constituent elements of a fruitful partnership [34]. The main motives for outsourcing partnership are cost savings, increased flexibility, bi-directional decision making, acquiring to professional expertise, better-quality of service, free management time when there is lack of resources, and improved financial control [41].

2.2. Why do Partnerships Fail?

Engaging in partnership with other firms might improve firms' enactment. Conversely, a partnership is not a threat free trade. According to the literature [42]-[45] partnership has a high disappointment rate. A research conducted by Piltan *et al.* [42] in 2007-08, conveyed that above 80% of CEOs said that partnerships were the core source of producing nearly 26% of their organization incomes. Still, partnerships have high failure proportions. Cost saving is an attractive factor (outsourcing may save 50% of the development cost or even more), but what if the budget will be wasted (you get a software with very ruthless quality) [46]. Bamford *et al.* [3] and piltan *et al.* [42], reports the failure ratio of partnerships from 30% to 70%. For that reason, observing the performance of a partnership and assessing the elements that have a negative impact on its performance is crucial. Information sharing, joint decision taking panel, risk and reward sharing, trust, commitment, and relationship specific assets are recognized as the foremost factors that affect the performance of an enduring partnership[42].

According to Tuten and Urban [36], the reasons are somehow certainly connected to the lack of putting into practice of SFs like, lack of upfront planning, pitiable communication, lack of relationship management, lack of trust and diverse goals and unsatisfactory performance signs indication. Various other reported causes by other scholar are changing of partner at the middle of the relationship and the corporate related causes of an individual or mutually [35].

3. Research Method

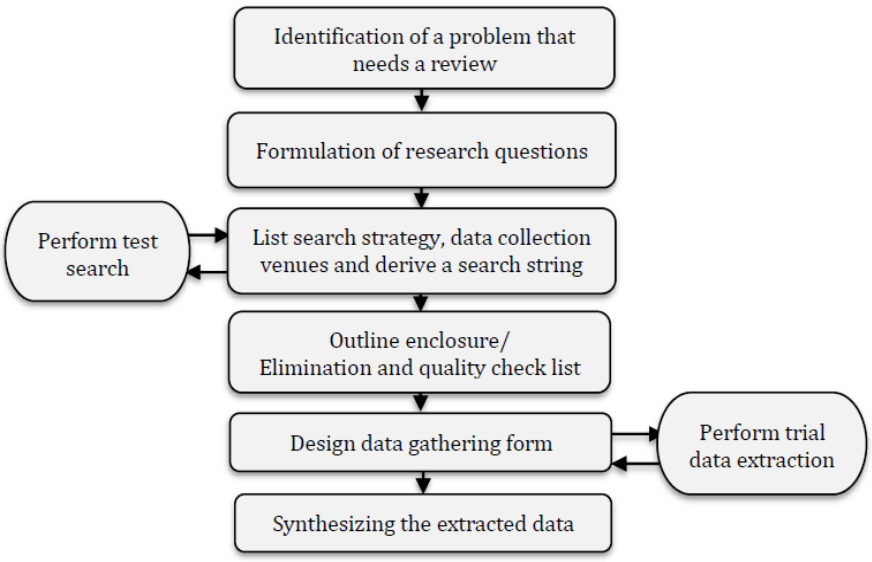

Fig. 1. Development process for the SLR protocol.

Systematic Literature review (SLR) [47] is chosen as a method for data gathering. It is an unbiased method of data collection on the basis of pre-defined research queries. It helps to collect facts from the included primary studies in a systematic way. It is also used as a main methodology for our preceding study. The main steps of the methodology are shown in Fig. 1.

3.1. SLR Protocol Development

To increase thoroughness, repeatability and to reduce the researcher biasness in a review, proceeding to the actual review process, we have settled a review plan called protocol. The protocol proposes the review procedures and plans by cataloging the particulars of several approaches for executing the systematic review [47]. Fig. 1 Outline the protocol development process. The first two steps have already mentioned in introduction. Detailed of the next steps is given below.

3.2. Search Strategy

3.2.1. Search terms for automatic search

One of the main challenges of performing an automatic search in the field under study is to find a relevant study in the domain, is the lack of standard and well-defined terms. Due to this problem and to avoid missing any relevant paper in the automatic search, we prefer to use a more generic search string. We included a wider number of papers in the primary results. Later, we filter out the irrelevant studies to get the final papers for data extraction purpose. We used the research questions and a stepwise strategy to obtain the search terms; the strategy is as follows:

- Identify intervention, population, and outcome on the basis of research questions.
- Identify the main term and construct search term from it.
- Find the synonyms and alternative spellings for each main term.
- Validate the terms and synonyms in any related paper.
- Combine these terms using Boolean OR/AND operators.

3.2.2. Search the literature

A manual search was conducted for the determination of resources to be searched. In this phase we initially develop a trial search string which was used in different digital libraries during the automatic search. The available different digital libraries are

- ACM-[acm.org].
- IEEExplore-[ieeexplore.ieee.org].
- CiteSeer-[citeseer.ist.psu.edu].
- ScienceDirect-[sciencedirect.com].
- GoogleScholar[scholar.google.com].
- SpringerLink[springerlink.com].

We have used this search string as a test search string. *((Solutions OR "lessons learned" OR practices OR Advice OR "best practice") AND (Partnership OR "Outsourcing partnership") AND ("Software outsourcing" OR "IT outsourcing" OR "IS outsourcing") AND ("Success Factors" OR Factors OR CSFs)*. Table 4, presented the final list of resources to be searched. The selections of these resources are based on our preceding SLRs [13], [48].

3.3. Literature Selection Criteria

3.3.1. Inclusion criteria /Exclusion criteria

The criterion is publicized in Table 1.

Table 1. Enclosure Criteria/Elimination Criteria

Papers that describe practices or solutions or advice or lesson learned for software outsourcing partnership
Papers that are written in English only and full text is available
Papers those are not related to the research questions
Paper that does not follow inclusion criteria

3.3.2. Study quality check list

Table 2. Publication Quality Evaluation Check List

Criteria	Code
Is it clear in what way the practices were identified for the proper implementation of critical success factors in software outsourcing partnership?	1,2,3 or 4
Has there adequate data to support the results?	1,2,3 or 4
Is it clear how solution/practices were measured in SOP relationship?	1,2,3 or 4
Is the researcher giving the impression to report optimistic results larger than adverse results?	1,2,3 or 4

The quality check will be performed at last using criterion given in Table 3. For each paper, the check list will be coded as Yes =1, partially=2, NA=3, No =4.

3.3.3. Study quality classes

1. *Criteria for A-quality papers:*

In this category we list those papers which fulfill the following criteria:

- Paper published in impact factor Journal
- Having sample size of the following condition

a) Case Study ≥ 3, b) Interviews ≥ 12

b) Survey ≥ 50, d) Literature Review ≥ 50

2. *Criteria for B-quality papers:*

In this category we list those papers which fulfill the following criteria:

- Paper published in well-reputed conference
- Having sample size of the following condition

a) Case Study = 2, b) Interviews: ≥ 5and ≤ 11

b) Survey: ≥ 30 and ≤ 49, d) Literature Review: ≥ 30 and ≤ 49

3. *Criteria for C-Quality Papers:*

In this category we list those papers which fulfill the following criteria's:

- Experienced reports/ articles, published in less reputed venues (Journal, Conference)
- Having sample size of the following condition

a) Case Study: 1, Interviews ≤ 5, b) Survey: ≥ 1 and ≤ 29

b) Literature Review: ≥ 1 and ≤ 29.

Classification based on this quality criterion is given in Table 6.

3.4. Data Extraction

3.4.1. Data extraction forms

What data to be extracted from each selected study are shown in Table 3. Data extraction processes are pictorial in the Fig. 2. The first two authors work as a primary investigator while the next two authors are the secondary investigator. Each primary review will independently review all papers and then compares the results obtained with each other. In the case of disagreement will approach the secondary reviewers.

Table 3. Data Extracted From

#	Note	Description
N1	Author(s)	Author(s) of the included studies in the SLR.
N2	Title	Title of the paper included studies in the SLR.
N3	Year	Year in which the study was published?
N4	Venue	Publication category of the included article: For example Conference, Journal, etc.
N5	Research Methodology	A kind of research methodology incorporated in the included article? It can be a case study, experience report, etc.
N6	Data Gathering Method(s)	A kind of research tool used for gathering data. For example Interview and questionnaire survey, literature review etc.
N7	Citation count	It is the number of citation of the selected study on scholar.google.com.
N8	Study Perspective	The study Perspective is grouped into academic (e.g. student cases) and industry.
N9	Components of Analysis	The basic unit (e.g., organization or a project) that is under investigation in the study.
N10	Company Size	It is the size of organization where the studied project is selected from or the researcher carried out the study.
N11	SOP practice(s)	What software outsourcing partnership practice are reported in the study?
N12	SOP factors(s)	The success factors reported in the study.

3.4.2. Data extraction process

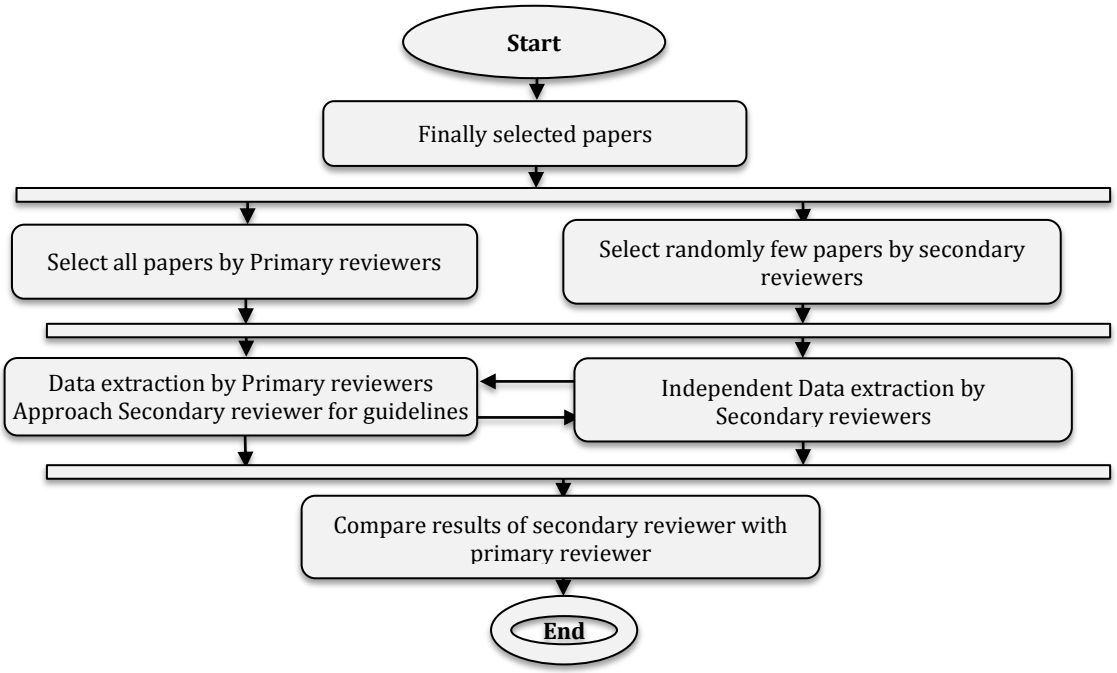

Fig. 2. Data extraction process.

Fig. 2 shows data extraction process. The first and last author work is primary reviewers while the 2nd and third work is secondary reviewers

3.5. Review Time Line

The review took from Sept 2014 – December 2015 to complete.

3.6. Protocol Authentication

A first version was submitted for evaluation to an expert, as result of the review, he suggested some minor changes. The protocol was updated in light of the suggestion and then presented to the SERG (Software Engineering Research Group) at University of Malakand Pakistan for final comments and approval. Finally, it will be published as a research paper.

4. Results

Table 4. Study Sources and Results Found

Source	Total Results retrieved	Title abstract based selection	Selection on full text readings
IEEExplore	261	85	15
ACM	772	90	10
Science Direct	711	85	28
Google Scholar	136	50	5
CiteSeer	320	30	3
SpringerLink	350	35	4
Snow Balling	40	20	10
Total	**2590**	**395**	**75**

In this section, we report the results related to our research questions. By using search strategy of Section 3.2 on the pre-mentioned digital libraries, we found 2590 papers. The results of the primary and final selection are given in Table 4. Only 84 papers out of 2590 qualify the inclusion/exclusion criteria. Finally, the duplication was removed by excluded 09 papers from the final list of papers which repeated across the different digital library, and we get a final total of 75 papers as shown in Table 4 and Fig. 3.

4.1. Distribution of Practices in Different Success Factors

This section demonstrates the outcomes of the SLR i.e the practices/solutions for implementing SFs in SOP. Table 6 present SFs and the number of respective practices identified. In table 6 # represent the paper number of a respective paper from which the practices were identified. We have identified 142 practices in total for 14 critical factors as shown in Table 5.

4.2. Classification Based on Quality

A paper is said to be very poor which not fulfill any quality criteria i.e A, B or C. Any studies which pass quality criteria-C were termed as Fair. An article which qualifies criteria-B is a candidate for good. While very good are those articles which pass criteria-A. From Table 6 it is clear that most of the included study was high quality paper.

Table 5. Number of Practices Found for Each CSF

Label	Success factor	f=142	%
SF1	**Effective and timely communication**	**17**	**58%**
[#1], [#5], [#6], [#9], [#10], [#20], [#21], [#22], [#23], [#28], [#29], [#30], [#32], [#33], [#35], [#36], [#37],[#38], [#40], [#42], [#44], [#46], [#48], [#49], [#54], [#55], [#58], [#59], [#66], [#68], [#69], [#71], [#72], [#73], [#75]			
SF2	**Quality production**	**17**	**57%**
[#2], [#3], [#4], [#5], [#6], [#12], [#13], [#16], [#17], [#19], [21], [23], [#30], [#31], [#32], [#33], [#35], [#37], [#38], [#39], [#40], [#41], [#42], [#44], [#45], [#46], [#48], [#50], [#51], [#53], [#55], [#61], [#65], [#66], [#68], [#69], [#70], [#71], [#75]			
SF3	**Mutual trust**	**15**	**59%**
[#6], [#8], [#10], [#15], [#21], [#27], [#28], [#30], [#31], [#32], [#33], [#41], [#42], [#43], [#44], [#45], [#47], [#50], [#51], [#52], [#54], [#57], [#58], [#59], [#60], [#66], [#67], [#67], [#69], [#72], [#73], [#74]			
SF4	**Organisational proximity**	**13**	**52%**
[#5], [#6], [#13], [#19], [#21], [#29], [#32], [#33], [#34], [#37], [#40], [#41], [#42], [#43], [#44], [#45], [#46], [#51], [#55], [#58], [#59], [#62], [#67], [#68], [#72]			

SF5	**3C (coordination, cooperation and collaboration)**	**13**	**50%**
[#4], [#5], [#6], [#21], [#22], [#29], [#31], [#32], [#35], [#36], [#37], [#38], [#40], [#41], [#42], [#43], [#44], [#58], [#61], [#64], [#66], [#69], [#71], [#72], [#73]			
SF6	**Bidirectional transfer of knowledge**	**12**	**39%**
[#2], [#5], [#6], [#8], [#9], [#12], [#19], [#21], [#23], [#25], [#29], [#30], [#31], [#32], [#33], [#35], [#40], [#42], [#43], [#44], [#47], [#54], [#55], [#58], [#59] [#66], [#68], [#69], [#71], [#72], [#73]			
SF7	**Joint management infrastructure**	**9**	**33%**
[#1], [#5], [#6], [#7], [#19], [#21], [#23], [#29], [#31], [#33], [#34], [#35], [#37], [#41], [#42], [#42], [#44], [#46], [#48], [#50], [#54], [#61], [#66], [#70], [#72], [#75]			
SF8	**Governance and control**	**9**	**31%**
[#4], [#7],[#10], [#21], [#29], [#30], [#33], [#34], [#37], [#41], [#44], [#48], [#50], [#53], [#55], [#58], [#67]			
SF9	**Mutual interdependence and shared values**	**7**	**5%**
[#5], [#6], [#8], [#12], [#19], [#20], [#21], [#30], [#31], [#33], [#37], [#42], [#43], [#44], [#46], [#47], [#48], [#49], [#50], [#51], [#54], [56], [#58], [#59], [#61], [#66], [#69], [#71], [#73], [#74], [#75]			
F10	**Flexible Service Level Agreements**	**7**	**43%**
[#3], [#5], [#6], [#7], [#10], [#21], [#29], [#31], [#34], [#43], [#44], [#48], [#50], [#59], [#63], [#67], [#68], [#70],			
SF11	**Long-term commitments**	**7**	**37%**
[#6], [#14], [#21], [#30], [#31], [#43], [#44], [#46], [#58], [#72], [#73], [#74]			
F12	**Cross Cultural understanding and sensitivity**	**7**	**32%**
[#1], [#6], [#29], [#43], [#44], [#51], [#52], [#54], [#58], [#59], [#67], [#72]. [#75]			
SF13	**Success stories of previous projects**	**5**	**32%**
[#1], [#6], [#35], [#36], [#42], [#45], [#50], [#51], [#54]			
SF14	**Access to new technologies, markets, and complementary skills**	**5**	**31%**
[#6], [#10], [#21], [#22], [#23], [#31], [#34], [#41], [#44], [#45], [#46], [#47], [#50], [#51], [#53]			

Table 6. Classification Based on Quality

Quality Scale	Poor	Fair	Good	Very Good	Total
# of studies	2	17	34	22	75
Percentage	2.67%	22.67%	45.33%	29.33%	100%

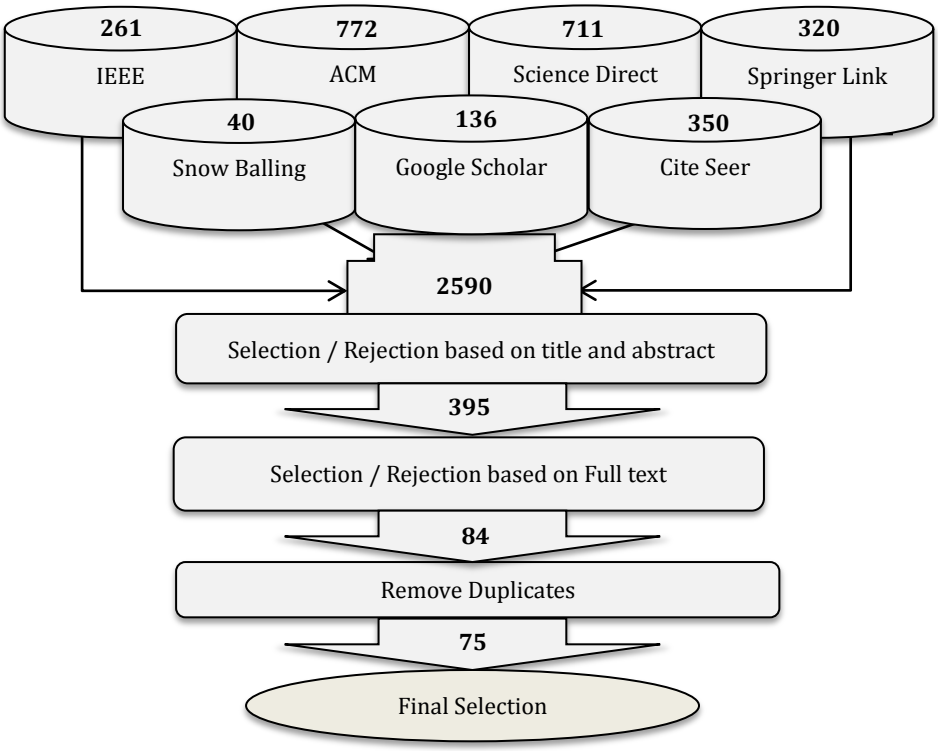

Fig. 3. Article selection process.

4.3. Data Gathering Methods

We have assembled the finally included studies into seven study methodology, as shown in Table 7. These are frequently used sources for data collection in the software engineering discipline. Greatest numbers of the article have incorporated case study as an investigation methodology. These study mythologies were firstly recognized by the primary investigators during the data gathering practice. Though, secondary investigators have validated these study method. Khan *et al.* [48] also reported similar results for outsourcing.

Table 7. Studies Countries

Methodology	Count
'Case studies'	31
'Experience report'	4
'Interviews'	20
'Survey'	13
'Literature review'	2
'Experimental study'	1
'Others'	4
Total	75

4.4. Countries Involved in SOP

According to Venkatraman [49], with growth in offshore outsourcing, the research dispute has changed from how to outsource toward where to outsource. The finally included articles point out twenty-seven dissimilar republics from where firms have practice SOPS Table 8 shows countries with high counts are, Unites States (20 cases), India (12 cases), UK and China (10 cases each), Canada and Australia (06 cases each), Germany (04), and, Netherland and Finland (03 cases respectively). The US-Indian partnerships were described in most of the included studies in our SLR. The Asian republics such as Russia, India, China, and Malaysia, mostly take part as vendor partner in outsourcing partnership, as these are very widely held stations for outsourcing. Other cited countries are Korea, Singapore, Italy, Turkey, Pakistan, Brazil and New Zealand. Our study outcomes disclose that the European republics like Finland, France, Thailand, Norway, Denmark, Sweden, and Switzerland are emerging countries focusing on outsourcing partnership.

Table 8. Study Method Used

Country	Count	Country	Count	Country	Count
USA	20	Korea	02	Ukraine	01
India	12	Malaysia	02	Switzerland	01
China	10	Singapore	02	Lithuania	01
UK	10	Sweden	02	Pakistan	01
Canada	06	Denmark	02	Brazil	01
Australia	06	France	02	Italy	01
Germany	04	New Zealand	02	Turkey	01
Netherlands	03	Thailand	01	Norway	01
Finland	03	Ireland	01	Spain	01

According to Jacob [50], offshore outsourcing is progressively affecting the EU-15 countries, both in the development and service area. According to 2013 Outsourcing in Europe report [51], Finland, Denmark, Sweden, Netherlands, Germany, Norway, Sweden, Spain, United Kingdom are new players from Europe. Access to particular expertise, tools, and knowledge might be a key factor for collaboration in outsourcing arrangements, which affects the offshore country choice for farm out services [51]. Ukraine and Lithuania

are the new comers to outsourcing partnership. The results might benefit the researcher interested in knowing about who involved in outsourcing partnership. The outcomes will also help practitioners working on outsourcing collaboration in the SDO industry. They can determine from the results of the study, where to outsource and which are the emerging countries in software outsourcing.

4.5. Collaboration Models

Using the taxonomy proposed by Khan for outsourcing [48], we classified the papers according to collaboration models. Three type of collaboration model were identified:

- Onshore partnership –partner located in the same country.
- Nearshore partnership– partner from a different country but in the same continent.
- Offshore partnership– partner from an overseas country commonly located in a different continent.

In our SLR most of the partnerships formed are offshore (46%) and Nearshore (32%). Partnership formed in Europe is usually Nearshore. According to Butterworth [53], Finland, Spain, Norway, Sweden and the UK, these countries outsource less to offshore countries. Most offshore partnership is formed between US-India and US-China [54], [55].

4.6. Size of Organization

We classify the included articles based on the pre-arranged data as recommended by [52] into four classes: 1) Small: having 0 to 19 personnel), 2), Medium: having 20 to 199 personnel), 3) Large: 200 plus personnel) and 4) Mixed (combination of more than one category).

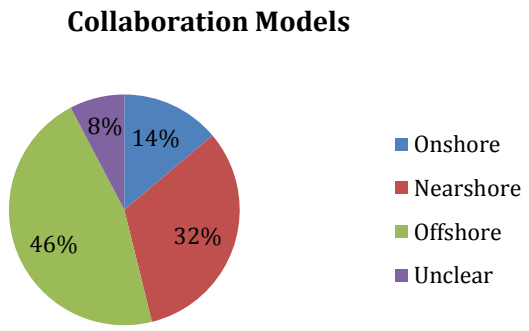

Fig. 4. Distribution of studies over collaboration model.

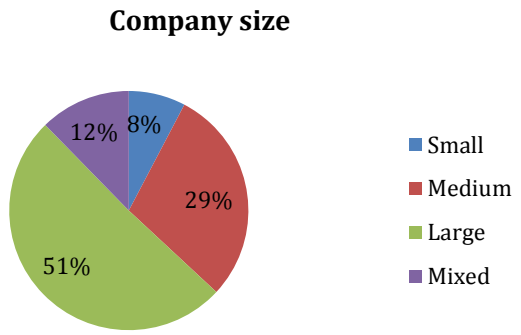

Fig. 5. Distribution of studies over organization size.

It is clear from Fig. 5. that most of the partnerships are formed in large size organization. The reason

might be that partnership is not formed instantly but when the relation is matured it is converted to a partnership. Kinnula *et al.* [12], report that in demand to contract out work that is not mainly interrelated to organization fundamental business deeds, large software firms are migrating from ordinary outsourcing to partnership outsourcing.

4.7. Chronological Observation

Fig. 6 denotes the quantity of the included papers published in each year from 2001 to 2015. Though, we have not put any time limit in the search phase. Still, we found paper between 2001 and 2015(search year) only. Which shows that outsourcing partnership starts appearing in the literature in 21st century i.e in 2001.

It is worth noting that we perhaps may not catch any related paper available online in 2003. Fig. 6 shows that the number of studies on outsourcing partnership published per year has been increased since 2004. We noticed that after 2004 only in 2011, the number of studies published per year is less than mean i.e 5. 27(36.6%) papers where published during 1st half from 2001 to 2007 while 45(63.3%) paper in the last 5 years from 2008 to 2014 excluding 2015 which is search year. It shows that outsourcing partnership are receiving increasing attention and interest from practitioners and researchers. But still the published paper per year is very low; it means the field is not much mature and more work need to be done. A similar view was presented in [53].

4.8. Publication Classify by Venue

Fig. 6 shows the categories of papers (i.e conferences or journals) involved in our SLR study. Journal is a widely held publishing venue with a count equal to 53 (i.e., 70.7% papers). The rest of articles have been available in conferences (22 studies, 29.3%). Table 9 and Table 10 shows the journals and conferences having frequencies>2 for our included studies with impact factor or edition number and their ERA rank.

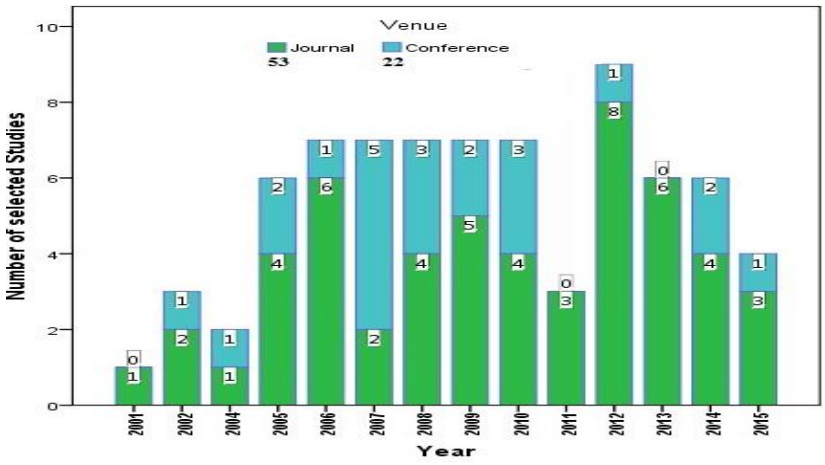

Fig. 6. Year wise distribution of studies over publication venues.

Table 9. Top Conferences in Our SLR Study

S.No	Name of Conference	# of studies	ERA rank	2017 Edition
1	'Hawaii International Conference on System Sciences (HICSS)' http://hicss.hawaii.edu/	7	A	50th
2	'ICGSE- International Conference on Global Software Engineering' http://icgse.org/	5	C	12th

Table 10. Top Journals in Our SLR Study

S.NO	Name of journal	# of studies	ERA rank	Impact factor
1	'Information and Management' https://www.journals.elsevier.com/information-and-management/	5	A*	2.163
2	'International Journal of Production Economics' https://www.journals.elsevier.com/international-journal-of-production-economics	5	A	2.782
3	'Journal of International Management' https://www.journals.elsevier.com/journal-of-international-management/	4	B	1.982
4	'The Journal of Strategic Information Systems' https://www.journals.elsevier.com/the-journal-of-strategic-information-systems/	3	A	2.595
5	'Omega' https://www.journals.elsevier.com/omega/	2	A	3.962
6	'Human Resource Management Review' https://www.journals.elsevier.com/human-resource-management-review	2	A	2.236
7	'IEEE Transactions on Engineering Management' http://ieeexplore.ieee.org/xpl/aboutJournal.jsp?punumber=17	2	A	1.454
8	'Information Systems Frontiers' https://link.springer.com/journal/10796	2	B	1.450
9	'International Journal of Project Management' https://www.journals.elsevier.com/international-journal-of-project-management/	2	A	2.885

Table 9 and 10 indicate that most of the studies are selected from a very high ranked journal and conference, which an unblemished signal of the thoroughness and quality of data sources included in the study. The included 75 papers were published in 47 different venues. Out of 47, we have (35) 46.6 % different journals and 12 (25.5%) different conference venue. Nine journals and two conferences have a count greater than 2 as shown in Table 9 and 10, respectively. HICSS and ICGSE are the top conferences for publishing work on SF and practices in SOP as they have 31.8% (7 papers) and 22.7% (5 papers) of the overall included papers published respectively. 'Information and Management' and 'International Journal of Production Economics' are the top journals with a a count equal to 5 (22.7%) each. It should be noted that 52 % (39 papers) were published in 11 (9 Journals and 2 conferences) venues while the rest 48% (36 papers) was published in 36 (26 Journals and 10 conferences) venues.

4.9. Distribution of Studies by Authors

Table 11 shows the top authors in our study. The criteria used for top authors was count>2 paper. Willcocks have published four papers in the selected papers. The authors have a citation greater than one thousand except the two authors Lahiri and Goo, which is also an indication of the quality of the studies. Table 11 will help the researcher, who wants to know about the researcher working in the field.

Table 11. Top Authors in Results of SLR

S.NO	Name of author		# of studies	Published papers	Citation count
	Last Name	First Name			
1	Willcocks	Leslie	4	333	6835
2	Lahiri	Indrajit	2	10	185
3	Kedia	Ben	2	29	1025
4	Kern	Thomas	2	30	1467
5	Lee	Jaenam	2	82	1419
6	Goo	Jahyun	2	30	477
7	Xu	Yan	2	140	2071
8	Yeh	Chunghsing	2	140	2071

5. Limitations of the Study

By using SLR procedure, we extracted data about practices for SFs in SOP, but how valid are our findings are? Related to internal validity ever first threat to be, for any particular study they have not explicitly

mentioned the cause to report practices for implementing SOP factors. We are unable to independently control this threat. Regarding threats to external validity, in many studies such as case studies, empirical studies and self-reported experience reports may have a propensity to report particular kinds of practices for implementing SFs in SOP. There may be a chance of publication bias in these studies. To lessen the researcher's prejudice, at every step of the SLR, we have conducted the inter-rater reliability tests. Though, impossibility in our research is that every paper is not possible to check by the secondary reviewer. To cope with this we take two authors as a primary reviewer, in order to double check each extracted paper. We do not claim that we have included all digital libraries, so executing our SLR process; it is possible to miss some relevant paper. The first reason is abundant papers on partnership and outsourcing. And the second reason is the unavailability of access to every digital library because of limited resources. However, the included digital libraries are sufficient for the synthesis of results in our study. According to other academics investigator like [48], [54], [56] using SLR as a method for data collection, this is not a methodical faux pas.

6. Conclusion and Future Direction

A good number individual's research works have been conducted in the field of outsourcing relationships for finding practices to implement success factors. But no, SLR procedure has been carried out for the documentation of practices in SOP in general and to group the practices in model form in a systematic and collective way in particular. The paper at hand, present results of the one phase of a proposed study in form of frequency analysis. The study protocol is presently in the execution phase. We welcome empirical inquiries on this subject. This will sanction our results and also trajectory vicissitudes in approaches to SOP accomplishments over time. For future work, from the outcomes of current SLR, we have noted the below milestone:

- The solutions for SOP factors will be further authenticated using first-hand studies with practitioners engaged in outsourcing industries.
- The solutions in SOP from client viewpoints will be investigated.
- It will also be investigated that why some practice are used in Europe and South America while other in Asia.
- It will also be checked out that why some practices are reported through questionnaire survey while other through case studies or interview.

Our upcoming work will focus, on the development of SOP framework. This paper presented only one milestone of the proposed frame work SOPM [57], the identification of practices for implementing SOP success factors through SLR.

Appendix

Table 19. List of Finally Selected Papers. The Conference Papers are Indicated by Italic Style

ID	Author(s)	Venue	Title	J. Vol & I Conf. Loc	Pages	Year
#1	Lacity, Khan, Willcocks	'The Journal of Strategic Information Systems'	'A review of the IT outsourcing literature: Insights for practice'	V = 18 & I = 3	130-146	2009
#2	Hsu, Liou	'Journal of Air Transport Management'	'An outsourcing provider decision model for the airline industry'	V = 28 & I = 1	40-46	2013
#3	Rohde	'International Journal of Accounting Information Systems'	'IS/IT outsourcing practices of small-and medium-sized manufacturers'	V = 5 & I = 4	429-451	2004

#4	Handley, Benton	'Journal of operations management'	'Unlocking the business outsourcing process model'	V = 27 & I = 5	344-361	2009
#5	Mukherjee, Gaur, Datta	'Journal of International Management'	'Creating value through offshore outsourcing: An integrative framework'	V = 19 & I = 4	377-389	2013
#6	Lahiri, Kedia	'Journal of International Management'	'The effects of internal resources and partnership quality on firm performance: An examination of Indian BPO providers'	V = 15 & I = 2	209-224	2009
#7	Sharma	'The International Information & Library Review'	'Exploring best practices in public private partnership (PPP) in e-Government through select Asian case studies'	V = 39 & I = 3	203-210	2007
#8	Gallear, Ghobadian, Chen	'International Journal of Production Economics'	'Corporate responsibility, supply chain partnership and performance: An empirical examination'	V = 140 & I = 1	83-91	2012
#9	*Betz, Oberweis, Stephan*	*'5th IEEE International Conference on Global Software Engineering'*	*'Knowledge transfer in IT offshore outsourcing projects: An analysis of the current state and best practices'*	*Princeton, USA*	*330-335*	*2010*
#10	Hahn, Gold	Journal of Business Research	Resources and governance in "base of the pyramid" partnerships: Assessing collaborations between businesses and non-business actors	V = 67 & I = 7	1321-1333	2014
#11	Youn, Yang, Hong, Park	'Journal of Cleaner Production'	'Strategic supply chain partnership, environmental supply chain management practices, and performance outcomes: an empirical study of Korean firms'	V = 56 & I = 1	121-130.	2013
#12	Mazzola, Perrone	'International Journal of Production Economics'	A strategic needs perspective on operations outsourcing and other inter-firm relationships	V = 144 & I = 1	256-267	2013
#13	Kern, Kreijger, Willcocks	'The Journal of Strategic Information Systems'	'Exploring ASP as sourcing strategy: theoretical perspectives, propositions for practice'	V = 11 & I = 2	153-177	2002
#14	Lawther, Martin	'Journal of Purchasing and Supply Management'	'Innovative practices in public procurement partnerships: The case of the United States'	V = 11 & I = 5	212-220	2005
#15	Tang, Shen, Cheng	'International Journal of Project Management'	'A review of studies on public "private partnership projects in the construction industry'	V = 28 & I = 7	683-694	2010
#16	Martinsons, Cheung	'Information & Management'	'The impact of emerging practices on IS specialists: perceptions, attitudes and role changes in Hong Kong'	V = 38 & I = 3	167-183	2001
#17	Pereira, Anderson	Journal of World Business	'A longitudinal examination of HRM in a human resources offshoring (HRO) organisation operating from India'	V = 47 & I = 2	223-231	2012
#18	Haralambides, Gujar	'Research in Transportation Economics'	'The Indian dry ports sector, pricing policies and opportunities for public-private partnerships'	V = 33 & I = 1	51-58	2011

#19	Li, Ragu, Rao	'Omega: The International Journal of Management Science'	'The impact of supply chain management practices on competitive advantage and organisational performance'	V = 34 & I = 2	107-124	2006
#20	Soltani, Wilkinson	'International Journal of Hospitality Management'	'What is happening to flexible workers in the supply chain partnerships between hotel housekeeping departments and their partner employment agencies?'	V = 29 & I = 1	108-119	2010
#21	Ryals, Rogers	'Business Horizons'	Holding up the mirror: The impact of strategic procurement practices on account management.	V = 49 & I = 1	41-50	2006
#22	Lepak, Bartol, Erhardt	'Human Resource Management Review'	'A contingency framework for the delivery of HR practices'	V = 15 & I = 2	139-159	2005
#23	Meng	International Journal of Project 'Management'	The effect of relationship management on project performance in construction	V = 30 & I = 2	188-198	2012
#24	Terziovski, Morgan	'Technovation'	'Management practices and strategies to accelerate the innovation cycle in the biotechnology industry'	V = 26 & I = 5	545-552.	2006
#25	Bayraktar, Demirbag, Koh, Tatoglu, Zaim	'International Journal of Production Economics'	'A causal analysis of the impact of information systems and supply chain management practices on operational performance: evidence from manufacturing SMEs in Turkey'	V = 122 & I = 1	133-149.	2009
#26	Rau	'Human Resource Management Review'	'The diffusion of HR practices in unions'	V = 22 & I = 1	27-42	2012
#27	Stoel, Muhanna	'Information & Management'	'The dimensions and directionality of trust and their roles in the development of shared business and IS understanding'	V = 49 & I = 5	248-256	2012
#28	Mason, Leek	'Industrial Marketing Management'	'Communication practices in a business relationship: Creating, relating and adapting communication artifacts through time'	V = 41 & I = 2	319-332.	2012
#29	Willcocks, Oshri, Kotlarsky, Rottman	'IEEE Transactions on Engineering Management'	'Outsourcing and offshoring engineering projects: understanding the value, sourcing models and coordination practices'	V = 58 & I= 4	706-716	2011
#30	*Gong, Tate, Alborz*	*'40th IEEE Annual Hawaii International Conference on System Sciences'*	*'Managing the outsourcing marriage to achieve success'*	*Waikoloa, USA*	*239c - 239c*	*2007*
#31	*Gewald, Helbig*	*'39th IEEE Annual Hawaii International Conference on System Sciences'*	*'A governance model for managing outsourcing partnerships: a view from practice'*	*Kauai, USA*	*194c-194c*	*2006*
#32	*Bannerman, Hossain, Jeffery*	*'45th IEEE Annual Hawaii International Conference on System Sciences'*	*'Scrum practice mitigation of global software development coordination challenges: A distinctive advantage'*	*Mau, Hawaii, USA*	*5309-5318*	*2012*

#33	*Prikladnicki, Audy, Damian, De Oliveira*	*'Second IEEE International Conference on Global Software Engineering'*	*'Distributed Software Development: Practices and challenges in different business strategies of offshoring and onshoring'*	*Munich, Germany*	*262-274*	*2007*
#34	Kakola	*'41st IEEE Annual Hawaii International Conference on System Sciences'*	'Best practices for international eSourcing of software products and services'	*Waikoloa, USA*	17-17	*2008*
#35	*Kess, Torkko, Phusavat*	*'29th IEEE International Conference on Information Technology Interfaces'*	*'Knowledge transfer for effective outsourcing relationships'*	*Cavtat, Croatia*	*69-74*	*2007*
#36	*Saunders, Chiasson*	*'42nd IEEE Annual Hawaii International Conference on System Sciences'*	*'Using Knowledge Management Systems to Structure Knowledgeable Practices'*	*Waikoloa, USA*	*1-10*	*2009*
#37	*Jalil, Hanif*	*'2nd IEEE International Conference on Computer Science and Informatio'*	*'Improving management of outsourced software projects in Pakistan'*	*Beijing, China*	*524-528*	*2009*
#38	*Boden, Nett, Wulf*	*Second IEEE International Conference Global Software Engineering*	*Coordination practices in distributed software development of small enterprises*	*Munich, Germany*	*235-246*	*2007*
#39	*Vijayamma, David*	*'18th IEEE International Requirements Engineering Conference'*	*'Enhancing customer partnership through Requirements Framework'*	*Sydney, Australia*	*337-342*	*2010*
#40	Gopal, Espinosa, Gosain, Darcy	'IEEE Transactions on Engineering Management'	'Coordination and performance in global software service delivery: the vendor's perspective'	V = 58 & I = 4	772-785	*2011*
#41	*Forbath, Brooks, Dass*	*'Third IEEE International Conference on Global Software Engineering'*	*'Beyond cost reduction: Using collaboration to increase innovation in global software development projects'*	*Bangalore, India*	*205-209*	*2008*
#42	*Hofner, Mani*	*'Second IEEE International Conference on Global Software Engineerin'*	*'TAPER: A generic framework for establishing an offshore development center'*	*Munich, Germany*	*162-172*	*2007*
#43	Goles, Chin	'The DATA BASE for Advances in Information Systems'	'Information systems outsourcing relationship factors: detailed conceptualization and initial evidence.	V = 36 & I = 4	47-67	2005
#44	Kern, Willcocks	European Journal of Information Systems	Exploring relationships in information technology outsourcing: The interaction approach'	V = 11 & I = 1	3-19	2002
#45	Wang, Lu, Zhang	'Journal of Zhejiang University SCIENCE'	'Software outsourcing risk management: establishing outsourcee evaluation item systems'	V = 7 & I = 6	1092-1098	2006
#46	Ee, Halim, Ramayah	'Service Business'	'The effects of partnership quality on business process outsourcing success in Malaysia: key users perspective'	V = 7 & I = 2	227-253	2013

#47	Lee, Huynh, Hirschheim	Information Systems Frontiers	An integrative model of trust on IT outsourcing: Examining a bilateral perspective	V = 10 & I= 2	145-163	2008
#48	Goo	'Information Systems Frontiers'	'Structure of service level agreements (SLA) in IT outsourcing: The construct and its measurement'	V = 12 & I = 2	185-205	2010
#49	Han, Kauffman, Nault	'Information Technology and Management'	'Relative importance, specific investment and ownership in interorganisational systems'	V = 9 & I = 3	181-200	2008
#50	*Aris, Arshad, Mohamed*	*'International Symposium on Information Technology'*	*'Risk management practices in IT outsourcing projects'*	*Kuala Lumpur, Malaysia*	*1 – 8*	*2008*
#51	Kedia, Lahiri	'Journal of International Management'	'International outsourcing of services: A partnership model'	V = 13 & I = 1	22-37	2007
#52	*Beulen, Ribbers*	*'35th IEEE Annual Hawaii International Conference on System Sciences'*	*'Managing an IT-outsourcing partnership in Asia. Case study: the relationship between a global outsourcing company and its global IT services supplier'*	*Big Island, USA*	*3122-3131*	*2002*
#53	Herath, Kishore	'Information Systems Management'	'Offshore outsourcing: risks, challenges, and potential solutions'	V = 26 & I = 4	312-326	2009
#54	Kinnula,Seppanen,Warsta, Vilminko	'40th IEEE Annual Hawaii International Conference on System Sciences'	'The Formation and Management of a Software Outsourcing Partnership Process'	Waikoloa, USA	240-240	2007
#55	Dhar, Balakrishnan	'Journal of Global Information Management'	'Risks, benefits, and challenges in global IT outsourcing'	V = 14 & I = 3	39-69	2006
#56	Lane, Lum	'Australasian Journal of Information Systems'	'Examining client perceptions of partnership quality and the relationships between its dimensions in an IT outsourcing relationship'	V = 17 & I = 1	47-76	2010
#57	*Goo, Kishore, Rao*	*'10th Americas Conference on Information Systems'*	*'Managing IT outsourcing relationships using service level agreements (SLAs): A multi-dimensional fit approach'*	*New York, USA*	*3514-3519*	*2004*
#58	*Yang, Fu, Zuo*	*'7th international conference on Electronic commerce'*	*'The integration mechanism of IT outsourcing partnership'*	*Xi'an, China*	*801-803*	*2005*
#59	Mao, Lee, Deng	'Information & Management'	'Vendors' perspectives on trust and control in offshore information systems Outsourcing'	V = 54 & I = 7	482-492	2008
#60	Teo	'International Journal of Information Management'	'Knowledge management in client "vendor partnerships'	V = 32 & I = 5	451-458	2012
#61	Barthelemy, Geyer	'Information & Management'	'An empirical investigation of IT outsourcing versus quasi-outsourcing in France and Germany'	V = 42 & I = 4	533-542	2005
#62	Xu, Yeh	'Omega : The International Journal of Management Science'	'An integrated approach to evaluation and planning of best practices'	V = 40 & I = 1	65-78	2012

#63	*Xu, Yeh*	*'Third IEEE International Joint Conference on Computational Science and Optimization'*	*'An optimal best practice selection approach'*	*Anhui, China*	*242-246.*	*2010*
#64	Wagner, Scott, Galliers	'Information and Organisation'	'The creation of 'best practice' software: Myth, reality and ethics'	V = 16 & I = 3	251-275	2006
#65	Teagarden, Meyer, Jones	'Organisational Dynamics'	'Knowledge Sharing Among High-Tech MNCs in China and India: Invisible Barriers, Best Practices and Next Steps'	V = 37 & I = 2	190-202	2008
#66	Thompson, Teo, Bhattacherjee	'Information & Management'	'Knowledge transfer and utilization in IT outsourcing partnerships: A preliminary model of antecedents and outcomes'	V = 51 & I = 2014	177–186	2014
#67	Oshri, Kotlarsky, Gerbasi	'Journal of Strategic Information Systems'	'Strategic innovation through outsourcing: The role of relational and contractual governance'	V = 24 & I = 2015	203–216	2015
#68	Xiaowei Zhu	'Transportation Research Part E'	'Managing the risks of outsourcing: Time, quality and correlated costs'	V = 90 & I = 2016	121–133	2015
#69	Schoenherr, Narayanan, Narasimhan	'International Journal of Production Economics'	'Trust formation in outsourcing relationships: A social exchange Theoretic perspective'	V = 169 & I = 2015	401–412	2015
#70	Gasparenienea, Vasauskaiteb	'19th International Scientific Conference; Economics and Management'	'Analysis of the criterions of outsourcing contracts in public and private sectors: review of the scientific literature'	Riga, Latvia	274 – 279	2014
#71	Han, Bae	'International Journal of Production Economics'	'Internalization of R&D outsourcing: An empirical study'	V = 150 & I = 2014	58–73	2014
#72	Søderberg, Krishna, Bjørn	'Journal of International Management'	'Global Software Development: Commitment, Trust and Cultural Sensitivity in Strategic Partnerships'	V = 19 & I = 2013	347–361	2013
#73	Vorontsova, Rusa	'Procedia Technology'	'Determinants of IT Outsourcing Relationships: A Recipient - Provider Perspective'	V = 16 & I = 2014	588 – 597	2014
#74	*Jones*	*'Asset Management Conference'*	*'Customising the partnership - standardising the delivery: driving mutual benefits in outsource energy partnerships'*	*London, UK*	*1- 3*	*2014*
#75	*Kusyk*	*'Information Technologies in Innovation Business'*	*State-Private Partnership in the Field of Social Reproduction: Facility Management'*	*Kharkiv, Ukraine*	*72- 75*	*2015*

Acknowledgment

We are thankful to all members of Beijing Key Lab of Petroleum and Data Mining at China University of Petroleum, Beijing. The authors also pay attributes to a research group, SERG, at the University of Malakand for their important feedback during the review session.

References

[1] Lee, J. N., & Kim, Y. G. (2005). Understanding outsourcing partnership: A comparison of three theoretical perspectives. *IEEE Transactions on Engineering Management*, *52(1),* 43-58.

[2] Kelly, M. J., Schaan, J. L., & Joncas, H. (2002). Managing alliance relationships: Key challenges in the early stages of collaboration. *Research & Development Management*, *32(1),* 11-22.

[3] Bamford, J., Ernst, D., & Fubini, D. G. (2004). Launching a world-class joint venture. *Harvard Business Review*, *82(2),* 90-100.

[4] Kemppainen, K., & Vepsalainen, A. P. J. (2003). Trends in industrial supply chains and networks. *International Journal of Physical Distribution & Logistics Management*, *33(8),* 701-719.

[5] Garciacanal, E., Duarte, C. L., Criado, J. R., & Llaneza, A. V. (2002). Accelerating international expansion through global alliances: A typology of cooperative strategies. *Journal of World Business*, *37(2),* 91-107.

[6] Rothaermel, F. T., & Boeker, W. (2007). Old technology meets new technology: Complementarities, similarities, and alliance formation. *Strategic Management Journal*, *29(1),* 47-77.

[7] Venkatraman, N., & Loh, L. (1994). The shifting logic of the IS organization: From technical portfolio to relationship portfolio. *Information Strategy*, *10(1),* 5-11, 1994.

[8] Kinnula, M., & Seppanen, V. (2003). Information technology requirements in an outsourcing partnership. *Proceedings of the Frontiers of E-Business Research* (pp. 493-503). Finland: Tampere.

[9] Moe, N. B., Smite, D., Hanssen, G. K., & Barney, H. T. (2014). From offshore outsourcing to insourcing and partnerships: Four failed outsourcing attempts. *Empirical Software Engineering*, *19(5),* 1225-1258.

[10] Kishore, R., Rao, H. R., Nam, K., Rajagopalan, S., & Chaudhury, A. (2003). A relationship perspective on IT outsourcing. *Communications of the ACM*, *46(12),* 86-92.

[11] Srinivasan, R., & Brush, T. H. (2006). Supplier performance in vertical alliances: The effects of self-enforcing agreements and enforceable contracts. *Organization Science, 17(4),* 436-452.

[12] Kinnula, M., Seppanen, V., Warsta, J. V., & Vilminko, S. (2007). The formation and management of a software outsourcing partnership process. *Proceedings of the 40th Hawaii International Conference on System Sciences* (pp-240-240).

[13] Ali, S., & Khan, S. U. (2014). Critical success factors for software outsourcing partnership (SOP): A systematic literature review. *Proceedings of the 9th International Conference on Global Software Engineering* (pp-154-162).

[14] Bowersox, D., Closs, D., & Stank, T. (2003). How to master cross-enterprise collaboration. *Supply Chain Management Review*, *7(4),* 18–27.

[15] Verwaal, E., & Hesselmans, M. (2004). Drivers of supply network governance: An explorative study of the dutch chemical industry. *European Management Journal*, *22(4),* 442-451.

[16] Parkhe, A. (1993). Messy research, methodological predispositions, and theory development in international joint ventures. *Academy of Management review*, *18(2),* 227-268.

[17] Lane, M. S., & Lum, W. H. (2011). Examining client perceptions of partnership quality and the relationships between its dimensions in an IT outsourcing relationship. *Australasian Journal of Information Systems*, *17(1),* 47-76.

[18] Ring, P. S., & Van de Ven, A. H. (1994). Developmental processes of cooperative inter-organizational relationships. *Academy of Management Review*, *19(1),* 90-118.

[19] Anderson, J. C., & Narus, J. A. (1990). A model of distributor firm and manufacturer firm working partnerships. *Journal of Marketing*, *54(1)*, 42-58.

[20] Anderson, E., & Weitz, B. (1989). Determinants of continuity in conventional industrial channel dyads. *Marketing Science, 8(4),* 310-323.

[21] Dwyer, F. R., Schurr, P. H., & Oh, S. (1987). Developing buyer-seller relationships. *The Journal of*

marketing, *51(2),* 11-27.

[22] Levinthal, D. A., & Fichman, M. (1988). Dynamics of inter-organizational attachments: Auditor-client relationships. *Administrative Science Quarterly*, *33(3),* 345-369.

[23] Kedia, B. L., & Lahiri, S. (2007). International outsourcing of services: A partnership model. *Journal of International Management*, *13(1),* 22-37.

[24] Lee, J. N., Huynh, M. Q., Chi-wai, K. R., & Pi, S. M. (2000). The evolution of outsourcing research: What is the next issue? *Proceedings of the 33rd IEEE Hawaii International Conference on System Sciences*. (pp. 1-10).

[25] Yang, B., Fu, H., & Zuo, M. (2005). The integration mechanism of IT outsourcing partnership. *Proceedings of the 7th International Conference on Electronic Commerce* (pp. 801-803).

[26] Sun, S., Lin, T., & Sun, P. (2002). The factors influencing information systems outsourcing partnership — A study integrating case study and survey research methods. *Proceedings of the the 35th Hawaii International Conference on System Sciences* (pp. 2810-2819).

[27] Assmann, D. P. (2003). Toward partnership in software subcontracting. *Computer in Industry*, *54(2),* 137-150.

[28] Henderson, J. C., & Venkatraman, N. (1992). *Strategic Alignment: A Model for Organizational Transformation through Information Technology.* New York: Oxford University Press.

[29] Lee, J. N. (2001). The impact of knowledge sharing, organizational capability and partnership quality on IS outsourcing success. *Information & Management*, *38(5)*, 323-335.

[30] Lee, J. N., & Kim, Y. G. (1999). Effect of partnership quality on is outsourcing success: Conceptual framework and empirical validation. *Journal of Management Information Systems*, *15(4),* 29-61.

[31] Li, E. l. (2013). Study of the decision-making model of outsourcing service provider selection. *International Journal of u- and e- Service of Science and Technology*, *6(2),* 1-10.

[32] Lai, Y. H. (2016). The factors affecting partnership quality of hospital information systems outsourcing of PACS. *Proceeding of the International Conference on Industrial, Engineering and Other Applications of Applied Intelligent Systems* (pp. 484–492).

[33] Roses, L. S. K. (2013). Strategic partnership building in it offshore outsourcing: Institutional elements for a banking ERP system licensing. *Journal of Information Systems and Technology Management, 10(1),* 61-80.

[34] Ylitalo, J., Eerikki, M., & Ziegler, K. (2004). *Building Mutuality and Trust in Strategic Partnership. Meaning of Early Stages in Relationship Formation: A Case Study*. Finland: Helsinki University of Technology BIT Research Centre, Espoo,

[35] Ellram, L. M., & Edis, O. R. (1996). A case study of successful partnering implementation. *Journal of Supply Chain Management*, *32(4),* 20-28.

[36] Tuten, T. L., & Urban, D. J. (2001). An expanded model of business-to-business partnership formation and success. *Industrial Marketing Management, 30(2),* 149-164.

[37] Kinnula, M., & Juntunen, S. (2005). A case study of success factors in outsourcing partnership formation and management. *Proceedings of the 21st IMP-Conference*.

[38] Hussein, M. (2007). *A Survey of Outsourcing of Training Services by Commercial Banks in Kenya*. New York: University of Nairobi Library.

[39] Flemming, R., & Low, G. (2007). Information systems outsourcing relationship model. *Australasian Journal of Information Systems*, *14(2),* 95-112.

[40] Garousi, V., Petersen, K., & Ozkan, B. (2016). Challenges and best practices in industry-academia collaborations in software engineering: A systematic literature review. *Information & Software Technology*, *79(2016),* 106-127.

[41] Bocij, P., & Hickie, S. (2008). *Business Information Systems*: *Technology, Development and Management for the E-business, Pearson education* (2nd ed.).

[42] Piltan, M., & Sowlati, T. (2016). Multi-criteria assessment of partnership components. *Expert Systems with Applications*, *64(2016),* 605-617.

[43] Foote, D. (2004). Recipe for offshore outsourcing failure: Ignore organization, people issues. *ABA Banking Journal*, *96(9),* 56-59.

[44] Ali, S., & Khan, S. U. (2016). Software outsourcing partnership model: An evaluation framework for vendor organizations. *The Journal of Systems and Software, 117 (2016),* 402–425.

[45] Khalfan, A. (2013). A case analysis of business process outsourcing project failure profile and implementation problems in a large organisation of a developing nation. *Business Process Management Journal*, *9(6),* 745-759.

[46] Dyer, J. H., Kale, P., & Singh, H. (2001). How to make strategic alliances work. *MIT Sloan Management Review*, *42(4),* 37-43.

[47] Kitchenham, B. C., & Stuart. (2007). *Guidelines for Performing Systematic Literature Review in Software Engineering* (No. 01). U. K: Keele University.

[48] Khan, S. U., Niazi, M., & Rashid, A. (2011). Factors influencing clients in the selection of offshore software outsourcing vendors: An exploratory study using a systematic literature review. *Journal of Systems and Software*, *84(2011),* 686-699.

[49] Venkatraman, N. V. (2004). Offshoring without guilt. *MIT Sloan Management Review*, *45(3),* 14-16.

[50] Kirkegaard, J. F. (2005). *Outsourcing and Offshoring: Pushing the European Model over the Hill, Rather than Off the Cliff*! (Report No. 05-1). Institute for International Economics.

[51] Butterworth, G., Kuchler, M., & Westdijk, S. (2013). Outsourcing in Europe: An in-depth review of drivers, risks and trends in the European outsourcing market. Retrieved from http://www.ey.com/Publication/vwLUAssets/Outsourcing_in_Europe_2013/$FILE/EY-outsourcing-survey.pdf

[52] Trewin, D. (2014). *Australian Small Business Key Statistics and Analysis*. p. 109.

[53] Zahedi, M., Shahin, M., & Babar, M. A. (2016). A systematic review of knowledge sharing challenges and practices in global software development. *International Journal of Information Management*, *36(6),* 995-1019.

[54] Verner, J. M., Brereton, O. P., Kitchenham, B. A., Turner, M., & Niazi, M. (2014). Risks and risk mitigation in global software development: A tertiary study. *Information and Software Technology*, *56(1)*, 54-78.

[55] Khan, S. U., & Ali, S. (2015). Empirical investigation of success factors for establishing software. *Proceedings of the Pakistan Academy of Sciences.*

[56] Ali, S., & Khan, S. U. (2014). Software outsourcing partnership (SOP): A systematic literature review protocol with preliminary results. *International Journal of Hybrid Information Technology*, *7(4),* 377-392.

[57] Ali, S., & Khan, S. U. (2014). Software outsourcing partnership model. *Science International Journal* Lahore, *26(4),* 1437-1441.

Sikandar Ali is a Ph.D student at the China University of Petroleum, Beijing under the supervision of Professor Dr. Li Hongqi. He has earned his M.Phil. software engineering degree under the research supervision of Dr. Siffat Ullah Khan at the University of Malakand, Lower Dir, Pakistan. He also taught at University of Swat, Pakistan for three years. His research interest lies in software outsourcing partnership, empirical software engineering, systematic literature review, requirements engineering, green computing, intelligent

computing, agile software development and global software engineering. Till date, he has published a number of articles in well reputed International conferences and Journals.

Li Hongqi is a professor and Ph.D advisor in the Computer Technology Department at the China University of Petroleum, Beijing. Li's research interests are swarm intelligence, particle swarm, optimization, intelligent information processing, software engineering, data mining, and big data mining. Till date, Li supervise more than 100 master and Ph.D students. He is the controller of the Beijing key lab of petroleum and data mining.

Siffat Ullah Khan is assistant professor of Computer Science & IT Department, University of Malakand, Pakistan. He holds a Ph.D in computer science from Keele University, UK. He is the founder of SERG at the University of Malakand. Siffat Ullah Khan with a gold medal (Dr. M. N. Azam Prize 2015) for his research achievements in the field of computer (software). He has been the head of the Department of Software Engineering at the University of Malakand for 3 years. He is currently leading software engineering research group (SERG-UOM) at the University of Malakand. Till date, he has published almost 100 articles in well reputed international conferences and journals. His research interest includes software outsourcing, empirical software engineering, systematic literature review, software metrics, green computing, cloud computing, requirements engineering and green computing.

Yang Zhongguo was a graduate student of information and computational science at Harbin Institute of Technology in 2010. He is now in pursuit of Ph.D degree in artificial intelligence from China University of Petroleum (Beijing). His research interests include data mining, paramer selection algorithm, genetic algorithm, and intelligent information processing and application.