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Research Article

Practices for Implementation of the Critical Success Factors in Software Outsourcing Partnership from Vendors' Perspective: A Literature Review

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Abstract: Software outsourcing partnership (SOP) is a trustful relationship between client and vendor organizations for shared goals. A SOP is different to ordinary software development outsourcing relationship. Usually a successful outsourcing relationship may lead to SOP. Software companies currently use a wide variety of mechanisms to outsource software development work. Beside all, SOP is an emerging strategy. The development of SOP depends on the proper implementation of various critical success factors (CSFs) like 'mutual trust', 'effective and timely communication', 'mutual interdependence and shared values', 'organisational proximity', 'quality production' and '3C (coordination, cooperation and collaboration)'. Moreover, the practices of SOP in the software industry are very little. The objective of this research is to identify practices for implementing CSFs in SOP. We have identified a list of 142 'practices' for various CSFs through SLR methods. Initially we have found 375 research articles through SLR process and finally 65 papers were selected. In total 142, practices identified through SLR for 14 CSFs.

Keywords: Systematic literature review, software outsourcing partnership, practices/solutions

1. INTRODUCTION

Software outsourcing partnership is a global software engineering (GSE) paradigm for developing high quality software at reduced cost. Software outsourcing partnership is different than software outsourcing. This is because software outsourcing is a contract-based relationship between client-vendor organisations whereas software outsourcing partnership is a collaborative relationship beyond organisational boundaries. Client-vendor relation in this fashion often crossing the traditional contractual limits. Here risks and benefits, investments and work load of joint labours are equally divided among the collaborative members. Companies achieve competitive advantages through inter and intra-organisational collaboration. Long term working relationships are developed based on bidirectional trust, mutual interdependence and win-win mind-set between partners. Companies usually develop collaboration to decrease the costs of obtaining appropriate information/understanding and capabilities or competencies needed for well-organized professional processes. Collaborative relationships usually are in the form of joint ventures, alliances, association or partnerships [1].

However, developing a fruitful long term cooperative relationship based on collaboration between two diverse businesses are more challenging and complex than commonly estimated. In view of Kelly et al. [2] disappointment proportion for collaborative relationships (like associations, alliances, joint ventures or partnerships) varied from 50% to 60%. Bamford et al. [1] reported in his research article that success rate was only 53%. When collaboration like partnership is in developing stage, the focus might very often be in financial and legal aspects. Beside all the complexities, collaboration still happens amongst

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organisations. Focusing on social aspects beside legal and financial, might lead to improved and more lasting results when developing partnership [3].

Building a successful inter-organisational partnership is a multi-dimensional and iterative process in which legal, psychosocial, economical sub processes are concurrently taking place [4]. Shared goals and ownership, mutual interdependence, mutual trust, long term commitment, effective and timely communication, quality production and partner's proximity are constituent parts of a successful partnership [3].

Due to mega economic changes, internationalisation, competition from low wage emerging countries, and improvements in information and communication technology (ICT) from 1980 to 1990 many different kinds of organisations have been created including multiple vendor agreements, strategic networks, different types of conglomerates, alliances and joint ventures etc [5]. Different types of organisations having different kinds of needs, therefore different kinds of relationships are needed. Numerous of the aforementioned relationships, at least at the start, are just intended for cost savings. Initially the core activities were performed in-house and relationship is formed only to buy non-core activities from other organisations. Now relationship is usually formed to acquire the information/understanding of new technologies, knowledge and skills beyond the organisation's boundaries and competence. So interest in closer relationships (a partnering relationship) has grown, because partnership provides the opportunity to enter into the knowledge of new technologies. Other possible motives include access to skilled human resources, acquiring complementary skills, entrance to new markets, more focus on company core competence, focus on strategic issues, boosting innovation, to reduced time to-market, increasing product or service quality, transferring static costs to variable costs, and improving competitiveness [6, 7].

Software companies currently use a wide variety of mechanisms to source software development; they outsource development work, develop insource, expand insource capability through acquisitions, and build partnerships and joint ventures with counterpart organisations [8]. Four of the strategies are highlighted by Moe et al [8], including insource, outsource, separate profit centre and strategic partnership. Similarly Roy [9] present four internal outsourcing strategies, including internal governance, recuperation, outsourcing and partnership.

According to Kishore [10], outsourcing relationship can be categorised into four categories. These are support, alignment, reliance and alliance. Alliance is a relation with high trust and low contractual control. Outsourcing partnership is a types of an alliance relationship [11].

1.1 Outsourcing Partnership – What it is?

Outsourcing partnership is a widely used terminology in the literature but still no precise definition exists for it. It is a relationship composed of two words outsourcing and partnership and therefore thoughtful understanding of individual terms is desirable for its definition.

Outsourcing is the contracting of various system's sub-functions, programming, data entry, facilities management, maintenance operation, system integration, disaster recovery, data centre management, and telecommunication by client firm to external vendor.

According to Oxford English Dictionary [12] outsourcing is defined as "the obtaining of goods or service or components from an outside or foreign supplier, especially in place of an internal source" In view of Kinnula et al [6] it is "the process of transferring the responsibility for a specific business function from an employee group to a non-employee group".

The main reasons for outsourcing are cost savings, increased flexibility in bidirectional decision making, access to specialist expertise, improved quality of service, free management time when there is lack of resources, improved financial control [13]. According to Brinkerhoff and Jennifer [14] the reasons for outsourcing, includes marked pressure on organisation to reduce costs, increase core competencies, and to provide specialized expertise more effectively.

In the management literature the partnership type correlation between companies has been

studied extensively [4]. For example, inter-firm cooperation has examined in the marketing discipline, partnering between manufacturers and distributors , manufacturers and sales agents , buyers and sellers as well as auditors and clients . While in computer literature empirical literature survey on the partnership relationship between outsourcer and outsourcee started to grow after 2000 in the Europe, US and Asia [4].

Lambert et al. [15] have the view as "a tailored business relationship based upon mutual trust, openness, shared risks, and shared rewards that yield a competitive advantage, resulting in business performance greater than that would be achieved by the firms individually". Lee et al. [16] define outsourcing partnership as "an inter-organisational relationship to achieve the participants shared goals".

In nut shell 'an outsourcing partnership' is a commonly used word with no clear-cut definition. It is used quite charitably by the academics, without proper definition. However, obliquely it is conceivable to develop a universally acceptable understanding of the use of the term: an outsourcing partnership is a partnering relationship resulting from the outsourcing process, unlike to the other types of relationships that can be engendered from the outsourcing process. It is a long term inter-organisational software development relationship between client and vendor organisations with mutual adjustment and renegotiations of tasks and commitment that exceeds mere contractual obligations stated in an initial phase of the collaboration.

In this research paper, we consider software outsourcing partnership as "a strategic partnering relationship resulting from a process of transferring the responsibility of developing software for a specific business function from an employee group to a non-employee group, including transfer of assets, such as personnel". SOP is a mutually beneficial, continuous and long term relationship, in which future plans, visions and confidential information is shared with partner organisations proactively and willingly, with the aim to help each other, in concentrating their skills and resources towards the right track.

1.2 Difference Between Ordinary Outsourcing and Partnership Outsourcing

Ordinary software development outsourcing (SDO) relationship is different than SDO partnership. This is because, in ordinary outsourcing relation a client contracts software development work to a an external vendor who provides development services for payment while outsourcing partnership is the superior form of ordinary outsourcing relationship [17-19]. SOP is a relation for long time based on the renegotiations of mutual adjusted task and commitment that supersede the initially agreed contractual terms and conditions that are mentioned as the start of the association [19]. It is flexible, long term and based on sharing of risks and benefits and future goals and visions. In practice only a fruitful outsourcing relationship is eligible to promote to outsourcing partnership [10]. It cannot be instantly developed, but rather, it shapes with the passage of time [6]. A key difference is in the level of depth; SOP is deeper relationship in which many traditional border line between companies are wrecked [6] . A relationship is said to be SOP, where the parties share confidential information about future plans, work together, combine resources, and share ownership, risks and benefits [5] and take joint decisions to undertake mutually beneficial business [20]. Outsourcing partnership is a good tool to overcome technological uncertainty, because outsourcing partnership is the unique type of outsourcing relationship where partners share information of unexpected events [21]. Here both the parties share tacit information, human resources, and work load, to achieve mutual goals [20]. 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 contractual relationship the stress is given on the obligation of formal contract and on achieving specific business goals. In summary Partnerships are about relationships, not contracts [6]. In order to understand SOP practices in SOP from vendor's perspective, we have formulated the following research question (RQ).

RQ1. What are the solutions/practices, as identified in the literature for proper implementation of success factors in Software Outsourcing Partnership from vendor's perspective?

Here we have tried to find out the possible solutions through SLR in the related research articles for the identified critical success factors of software outsourcing partnership. The findings of SLR have been validated in the software industry through questionnaire survey. The rest of the paper is structured as. Related work is presented in section 2, section 3 presents the methodology. Section 4 describes the study results. Section 5 summaries and discusses the paper. Section 6 deals with limitations while Section 7 is the conclusions and future work.

2. BACKGROUND AND ASSOCIATED WORK

A number of approaches exist for collaboration, such as sub-contracting, partnership, alliance, reliance and joint ventures, etc. Kinnula [6] has presented a summary of the research areas of partnership in the context of software development outsourcing. These include (1) motivation towards partnership (2) performance evaluation of partnership (3) Scope of partnership (4) success of partnership and (5) decision making frameworks for partnership.

Ellram and Edis [22] explain how traditional outsourcing relationship is moved towards partnering relationship. Previously alliance has been highlighted with opportunism, doubt and distrust, contracts for single projects, strictly watched over communication between client and vendor, limited objectivity, restraint access of organisational resources, retribution for slip-ups, blame and distance and connection for specific project only. This type of outdated mind-set is not fruitful to an outsourcing partnership relationship. To bring the relationship on right way, a key change in approach is required. In partnership type relations shared aims and objectives, mutual trust, openness and honesty in dealings, effective and in time communication, objective critique, long-term commitment, innovative and supportive work place, organisational access to new technology, complementary skills and market, knowledge and resources sharing, teamwork, complete company engrossment at every levels of contacts and organisational proximity provide foundation for the partnership relationship formation.

Bowersox et al. [20] state that, partnership is formed in order to achieve shared benefits greater than that firms would achieve individually. It is a long term process in which partners with mutual goals makes joint decisions, work closely together, share information, ownership, benefits, risks, resources and achieve mutual beneficial results.

Different studies have been conducted to identify the various factors related to software outsourcing. Khan et el. [23] have conducted a systematic literature review and have identified 22 success factors regarding selection of software outsourcing vendors. They have briefly analysed the identified success factors across the different continents, organisations size and in different decades. They have also conducted an empirical study to address the solutions for their identified success factors. The same kind of study has been conducted by Niazi et al. [24] find out the different critical success factors (CSFs) through empirical study regarding software process improvement.

A number of other researchers have tried to address some of the issues of SOP, e.g (Bowersox et al. [20], Sehic et al. [25], Millson et al. [26], Kinnula [6], Alexandrova [27], Dominguez [28], Ellram and Edis [22], Mohr et al. [29], Hossain et al. [30], Bruce et al. [31], Mishra [32]. Summary of some of these research works are presented below:

A research study was carried out in USA on factors affecting partnership formation [33], the main results of the investigation were mutual trust and cultural differences. A comparable study was carried out by Kinnula [6] to investigate the formation of outsourcing partnership and has proposed outsourcing partnership life cycle model. Sehic et al. [25] proposed a strategic partnership model (SPM) and have identified various external factors (such as social, political, competitive and technology) and internal factors (such as organisational perspective, cost, resource, history and competitiveness).

Dominguez [28] argues the partnership as a manifestation of trust. The need for partnering relationships arises in case where countless and faster co-operation is demanded. One of the constituent's elements of partner type relationship is the provision of trustful atmosphere between the outsourcing client and vendor. Open

communication, information sharing and mutual goals are all tools for getting partner position.

Bruce et al. [31] in his paper 'complexities of collaborative product development' present the following success factors, trust and flexibility, communication, equivalence in power, benefits and contribution, commitment and strong personal relationships. Millson et al [26] identified success factors like mutual understanding of strengths and weaknesses, goals related to strategy, intellectual property rights, information sharing and exit strategies.

Mohr et al. [29] have identified various critical factors such as coordination, communication quality, commitment, trust, information sharing, active participation, honesty and openness, and joint problem solving in partnership formation [29]. Similarly other identified factors include bidirectional information sharing, shared goals, trust, early communication with client, distinct value addition by vendor, top management support, mutual commitment and mutual understanding [34].

Hossain et al. [30] conducted a study about SCRUM in Global Software Engineering (GSE) and found that agile practices shown to be enormously favourable in GSE projects. They found that some of the outcomes that the authors conceived could enhance GSE projects in general.

Smite et al. [35] conducted SLR which provides detail GSE practices and techniques. It provides the seven most important discussed practices in literature that is particularly significant for practitioners.

Although multiple different collaboration approaches exist, such as sub-contracting, partnering, joint ventures, etc. our study focus solely on outsourcing partnership as the empiric case used in this study. It is observed that no SLR has been conducted so far for finding the critical success factors (CSFs) in SOP. Critical factors are those impacting either positively in partnership formation. Usually these are listed under "success factors" or "factors leading to successful partnership" in the relevant literature. It is observed that no SLR has been conducted so far for finding the solutions for identified CSFs. We consider all those factors as critical, which have been cited by >=30% in research articles. This paper is one component of our proposed software outsourcing partnership model (SOPM) [36, 62]. This paper concentrates on the solution of the identified CSFs of SOPM. We have conducted SLR and have identified 26 success factors of SOP, out of which 14 are CSF [19]. Furthermore, we have also conducted a separate SLR for extraction of the solutions from the literature.

3. RESEARCH METHODOLOGY

For the identification of practices for proper implementation of critical success factors (CSFs) we had used systematic literature review (SLR) process. For this process we follow the guiding principle of Kitchenham and Charters [37-39]. A similar approach has also been used by other researchers [19, 40], we also studied these approaches and get guidance from it. We presented the research methodology of our paper in Fig.1. Khan and Niazi [41] has also used a similar approach. In first phase of SLR, research questions are defined. In the second phase general literature review is conducted. The selection of relevant literature is carried out on the bases of title and abstract in the third phase. In the fourth phase data

Fig. 1 Systematic literature review process.

are extracted from the relevant papers and also we synthesis these data into different categories. Finally, we classify these categories and identify practices for SOP.

By using systematic literature review our study will confine the missing practices in SOP. Our research in the area of SOP is expected to give the right and useful approach in order to views outsourcing practitioners about the awareness of SOP. The novelty of our research shows that nobody has conducted SLR in the domain of SOP to find out practices for proper implementation of CSFs in the context of SOP formation. This paper helps the SDO vendor organisations to use the practices in order to implement the various factors. This paper wills also improving the readiness of SDO vendors toward SOP strategy.

The ultimate goal of our project software outsourcing partnership model is under process. However, we have published methodology and design of our proposed model [17, 19, 36]. This paper contributes to the conduction and findings of the SLR. The major steps in our methodology are:

3.1 Search Strategy and Search

The search strategy and search is available in the protocol [17]. 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. The available different digital libraries are IEEE Xplore (http://ieeexplore.ieee.org/), ScienceDirect (http://www.sciencedirect.com), ACM (http://dl.acm.org/), CiteSeer (http://citeseerx.ist.psu.edu) and Springer Link (http://link.springer.com/).

3.2 Publication Selection

3.2.1 Inclusion Criteria and Exclusion Criteria

The inclusion criterion is available in the protocol [17, 18].

3.3 Selecting Primary Sources

The selection process had two parts: a primary selection from the search results of papers that could plausibly satisfy the selection criteria, based on a reading of the title and abstract of the papers; followed by a final selection from the primarily selected list of papers that assure the selection criteria, based on a reading of the whole papers. The inter-rater reliability test was performed to reduce the researcher's biasness. However, no variances were found. Only 74 papers out of 2550 qualify the inclusion/ exclusion criteria. Finally the duplication was removed by excluded 09 papers from the final list of papers which repeated across different digital library, and we get a final total of 65 papers.

3.4 Publication Quality Assessment

Details are available in the protocol [17, 18]. The results of the study quality assessment were used in the selection of publications. After applying the quality assessment criterion, 65 papers remained included in the final list.

3.5 Data Extraction

The review was undertaken in a team by the researchers (authors), who were responsible for the data extraction. The inter-rater reliability test was performed after the data extraction process and no disagreements were found. The following data was extracted from each publication: date of review, title, authors, reference, database, critical factors, methodology (interview, case study, report, survey etc), target population, sample population, publication quality description, organisations type (software house, university, research institute etc), company size (small, medium, large), spi certification, country/location, year and practices for proper implementation of CSFs.

3.6 Classification of Practices

After identifying the practices for proper implementation of SFs in SOP SLR, we classified few practices as critical practices. The classification of critical success practices was based upon criteria, such as: those practices will be considered as critical whose frequency was >= 30.

4. RESULTS

This section demonstrates the outcomes of the SLR i.e the practices/solutions for implementing CSF for SOP. In the following tables, we have used the

term 'CSF' for short to represent 'critical Success factors'. The subsequent sections represent 14 CSFs and their respective identified practices. We have identified 142 practices in total.

4.1 Mutual Interdependence and Shared Values

'Mutual interdependence and shared values' is the most important factor identified in our research study. By mutual interdependence and shared values, we mean common aims and objectives, sharing risk, benefits and shared ownership. According to Alexandrova [27] it is considered as important factor of the outsourcing partnership as it presumes "goal symmetry" between the outsourcer and vendor organizations. Table 1 presents our identified list of 7 practices to implement CSF 'mutual interdependence and shared values'.

4.2 Mutual Trust

'Mutual trust' is the second most cited success factor in our findings. Mishra [32] defined mutual trust as "…one party's willingness to be vulnerable to another party based on the belief that the latter party is 1) competent, 2) open, 3) concerned, and 4) reliable". Mutual trust and transparency leads to the establishment of long-term relationship between client and vendor organisations [42]. The degree of trust between the partners compensates any potential drawbacks of the formal contracting and the lack of strong defenses clauses in the outsourcing agreement [27]. Table 2 presents our identified list of 11 practices to implement CSF 'mutual trust'.

4.3 Effective and Timely Communication

By 'effective and timely communication' we mean exchanging status of the efficiency and effectiveness between partners. According to Webb [43] 'effective and efficient communication' between client and vendor organisations gives them an opportunity for the development of mutual understanding, respect and qualities, which can significantly increase the permanence of an outsourcing relationship. In view of Berger and Lewis [44] effective communication between outsourcing partners is assumed to be of crucial importance for the successful relationship. Table 3 presents our identified list of 11 practices to implement CSF 'effective and timely communication'.

4.4 Quality Production

'Quality production' by vendors can lead towards partnerships with their clients. By quality production, we mean delivery of high quality products, by using up to the mark capability and expertise, up-to-date technology and core competencies of vendor's in providing the required service quality. Due to the outstanding evolution in free marketplaces under the conditions of globalization and improvements in ICT, organisations have to consider outsourcing strategies, not for utilisation of the cost advantages but also to take benefits from the enhanced quality that counterpart vendors offer [14]. Table 4 presents our identified list of 13 practices to implement CSF 'Quality production'. Indian software companies have been reported to provide high quality software at low cost [45]. This is the reason that in the software export market, India is a dominant software outsourcing provider [46]. These trends show that 'quality production' is used as one of the criteria in the promotion/conversion of software development outsourcing vendors.

4.5 Organisational Proximity

By organisational proximity we mean strategic compatibility, business and technology understanding and language symmetry (refer to situations where both partners speak the same language). Organisational proximity is defined as "belonging to the same space of references" and manifested by shared representations, norms, standards and work practices [47]. Table 4 presents our identified list of 9 practices to implement CSF 'organisational proximity'.

4.6 Coordination, Cooperation and Collaboration

Coordination is the harmonization and combination of responsibilities, activities and command and control structures to efficiently use resources of an organization, in order to achieve predefined objectives. Cooperation is the actions of common efforts or association for mutual benefits. Collaboration is a cooperative working arrangement

Table 1. Practices for implementing mutual interdependence and shared values.

S. No.	Practices/Solutions for implementing 'mutual interdependence and shared values', identified through SLR	% of Practices via SLR (N=65)
1	Collaborate with client in decision making process and engage client in the development phases updates	22%
2	Respect for mutual obligations and recognition of dependence	8%
3	Establish collaboration in the form of Sharing risks, benefits and burden with the client	18%
4	Set up common goals, vision, expectation and ownership	25%
5	Establish frequent communication in different modes (site visits, synchronous and asynchronous communication using online tools)	5%
6	Develop complimentary assets and skills.	6%
7	Provide competitive quality of service, skills and resources	5%

Table 2. Practices for implementing mutual trust.

S. No.	Practices for implementing 'mutual Trust', identified through SLR	% of Practices via SLR (N=65)
1	Properly define role and responsibility	6%
2	Maintain reputation and good track records of the previous project	6%
3	Provide long term cooperation	9%
4	Openly share knowledge among the team members	14%
5	Follow the agreed time schedule strictly	11%
6	Deliver high quality products as per requirements	11%
7	Fulfill the client expectation as stated in the service level agreement	3%
8	Collaborate with the client in the form of joint investments, joint execution and jointly management	14%
9	Follow professional ethics in dealings	6%
10	Arrange site visits	5%
11	Maintain confidentiality and security of client's information including intellectual property rights	9%

Table 3. Practices for implementing effective and timely communication.

S. No.	Practices for implementing 'Effective and timely communication, identified through SLR	% of Practices via SLR (N=65)
1	Encourage both asynchronous and synchronous communication	22%
2	Establish communication guidelines and ICT infrastructure	8%
3	Create and offer shared cyber space	5%
4	Encourage frequent communication through latest technologies	8%
5	Communicate project status on daily basis	9%
6	Arrange ICT training sessions for the team members	5%
7	Establish open communication between stakeholders through face to face meetings and onsite visits	11%
8	Adjust communication barrier through the use of middleman with efficient communication skills and domain knowledge	9%
9	Design special interfaces between client and offshore vendor employees such as EDI(Electronic Data Interchange) link	6%
10	Encourage frequent formal and informal communication among team members	6%
11	Communicate well and according to a plan by using a team calendar for who needs to know what and when	9%

in which two or more parties (which may or may not have any previous relationship) work jointly towards a common goal. Literature reveals that the current inter-organisational trend is changing from competition to coordination, cooperation and collaboration [48]. Table 6 presents our identified list of 7 practices to implement CSF 'coordination, cooperation and collaboration'.

4.7 Flexible Service Level Agreements (SLA)

SLA is an officially written agreement jointly developed between client and the vendor organisation. It specifies a service provision or product development at such level to achieved business aims and objectives. It is an outsourcing agreement in the form of written contract between outsourcee (service provider) and outsourcer (a service receiver). SLA covers all of the terms and conditions of the corporate association, including services to be provided and service provider fees, time and schedule etc. In practice SLA is a constituent part to the outsourcing agreement. The SLA governs the quality and availability of the service, covering areas listed in the response to the prior question [49]. Table 7 presents our identified list of 4 practices to implement CSF 'flexible service level agreements (SLA)'.

4.8 Bidirectional Transfer of Knowledge (BTK)

BTK emerges when optimal (in terms of quantity and quality) information necessary for the realization of the service is provided through the channels of effective communication between the partners. The knowledge could have two forms: implicit i.e. informal, tacit, and explicit i.e. formal [50]. Special attention should be put on the way in which organizations "learn" from their partners, as this appears to be one of the means for the development of key competences [27]. Table 8 presents our identified list of 6 practices to implement CSF 'BTK'.

4.9 Long-Term Commitments

Commitment is the willingness of the parties to devote resources and exert effort in order to sustain an ongoing relationship [51]. It has a future orientation [29] with long-term perspective [52]. It reflects the partner vision that the relationship will be sustained over time [53], and has been characterized as "an enduring desire to remain in a valued relationship" [54]. Table 9 presents our identified list of 4 practices to implement CSF 'Long-term commitments'.

4.10 Joint Management Infrastructure

Joint management infrastructure is an inclusive term used to describe all of the structures, and substructures, used for the joint management. Once a trust over vendor is developed as a partner, then the relationship with the client typically moves toward joint management infrastructure, such as joint investment and jointly managing assets used in the relationship (e.g., vehicles, human resources and machinery, etc.). Table 10 presents our identified list of 5 practices to implement CSF 'joint management infrastructure'.

4.11 Cross Cultural Understanding and Sensitivity

Many cross cultural software development relationship failures have been endorsed to a cultural differences and lack of capability to boost 'cross cultural understanding and sensitivity' [55]. It is degree of understanding of behaviour patterns, values and norms between partners. Increased globalization in the political, economic, and social fields has developed greater interpersonal cross-cultural contact. Cross-cultural training has been suggested by many scholars as a means of facilitating more effective interaction, because much of cross-cultural contact has not been successful [56]. Table 11 presents our identified list of 6 practices to implement CSF 'cross cultural understanding and sensitivity'. Sixty nine percent of all the outsourcing projects failed either completely or partial due to intercultural incompatibilities among the client and vendor organisations and poor relationship management [57].

4.12 Success Stories of Previous Projects

Another key factor in the model is the degree of achievement of results set as contract goals in the previous outsourcing agreement. This degree should reflect the divergence between the actual benefits and the relative costs that the client organisation would have to spend without the realization of the particular partnership [58]. Every organisation has a working story/history. These success stories pro-

Table 4. Practices for implementing Quality production.

S. No.	Practices for implementing 'Quality production', identified through SLR	% of Practices via SLR (N=65)
1	Improve capability of vendors by implementing SPI certification such as CMM, CMMI, COPC-2000, ISO and LEAN etc.	14%
2	Improve quality of product through proper monitoring	6%
3	Improve competitiveness in service provision	12%
4	Provide ways for proper interaction between team members and sharing of tacit knowledge	18%
5	Acquire employees with good job-based knowledge skills (qualification , project management and IT skills)	14%
6	Provide good service design and execution	5%
7	Strictly follow development time schedule	12%
8	Establish mutual trust	11%
9	Offer trainings related to quality management	5%
10	Conduct requirements engineering phase thoroughly by using standard RE models	8%
11	Improve client-vendor coordination	5%
12	Ensure to high extent the project met the following client requirements.1) Response time. 2) Flexibility. 3) Usability. 4) Reliability.	9%
13	Ensure availability of global innovative talent, and reliance on world class delivery models	6%

Table 5. Practices for implementing Organisational proximity.

S. No.	Practices for implementing 'Organisational proximity' , identified through SLR	% of Practices via SLR (N=65)
1	Achieve mutual understanding by active cross-cultural communication through short visits of employees and face-to-face meetings when and where possible	15%
2	Offer different skills trainings such as formal communication language, client-specific and domain-specific, analytical, logical reasoning	22%
3	Understand and respect the differences in norms and values	8%
4	Temporarily relocate selected members to client's site	6%
5	Adjust communication barrier through the use of middlemen.	5%
6	Thoroughly understand provider's business (e.g., core competencies, values, philosophy, work culture)	15%
7	Use time management (schedule) to mitigate time zone difference	5%
8	Use a common set of development techniques/policies and tools between the organisations to minimize differences in understanding.	11%
9	Establish a formal communication protocol so that the communication lapses and barriers are avoided	6%

Table 6. Practices for implementing coordination, cooperation and collaboration.

S. No.	Practices for implementing 'Coordination, Cooperation and Collaboration' , identified through SLR	% of Practices via SLR (N=65)
1	Utilize the time zone differences by managing the working hours between the two sites in such a way that can lead towards 24 hours development	9%
2	Promote visits and exchanges among sites	9%
3	Provide active cooperation at all stages and respect for mutual obligations	12%
4	Escalate formal and informal cooperation and coordination through formal and informal meetings	12%
5	Regularly share data about each phase of development	9%
6	Use special collaborative technology like: Software configuration management applications are used to manage different versions of the components of a software system.	14%
7	Increase dependence between the partners	5%

vide in depth information about organization. Table 12 presents our identified list of 5 practices to implement CSF 'success stories of previous projects'.

4.13 Access to New Markets, Technologies and Complementary Skills

With help of partnership both parties gets access to new markets, technologies and complementary skills, for undertaking complimentary activities to achieve mutual benefits [59]. Table 13 presents our identified list of 3 practices to implement CSF 'access to new markets, technologies and complementary skills'.

4.14 Governance and Control

Governance in outsourcing partnership arena generally refers to the processes, mechanisms and relations by which partners are directed and controlled [60]. It includes the sharing of ownership and rights, benefits and responsibilities among different parties involved in the partnership. It also includes processes through which outsourcing partnership objectives are set and pursued, in the context of the social, regulatory and market environment [61]. Governance in outsourcing partnership is concerned with the resolution of shared action and problems among distributed allies and the settlement of conflicts of concern between numerous outsourcing partners [62]. Table 14 presents our identified list of 4 practices to implement CSF 'governance and control'.

5. SUMMARIES AND DISCUSSION

We have identified 142 practices in total, through SLR, for implementing CSFs which can lead vendor towards partnership with client organisation. The SDO vendor organisations can also get help from these practices in order to know that how can they solve the problems of their clients. Afetr applying the criterion that a practice should be considered only if it having %age >=5 in the SLR. We have found 7 practices for implementing CSF 'mutual interdependence and shared values'. We have identified through SLR, those most suitable practices/solutions for implementing mutual interdependence and shared values are the following two practices (% ≥ 22) as shown in Table 1:

i. Set up common goals, vision, expectation and ownership. Mutual interdependence increases as both sides would understand each other's needs and expectation, goals and vision, ownership and responsibility especially for long term partnership.

ii. Collaborate with client in decision making process and engage client in the development phases updates.

For implementing the 'mutual trust' CSF our SLR study finds 11 practices. Table 2 noted that mutual trust can be best established by follow the following two practices (% ≥ 14):

i. Openly share knowledge among the team members.

ii. Collaborate with the client in the form of joint investments, joint execution and jointly management.

For implementing the CSF 'effective and timely communication' our SLR study also finds out 11 practices. Table 2 illustrious that lack of effective communication can be achieved by following practice (% ≥ 22):

i. Encourage both asynchronous and synchronous communication.

Adopt both synchronous (voice) and asynchronous (text) tools like: instant messaging, telephone, wiki, fax, e-mail, voicemail, internet, mailing lists, shared databases, IRC, Skype, messenger, net meeting, chat, phone, virtual white boards, change management system, team intranet websites, photo gallery, group calendars, power point presentations, nor-real-time database, blog, camel, team space and next move

We have found 13 practices for achieving 'quality production' through SLR. From the Table 4 we have noted that most suitable practices/solutions (% ≥ 14) for 'quality production' are:

i. Provide ways for proper interaction between team members and sharing of tacit knowledge.

ii. Acquire employees with good job-based knowledge skills (qualification , project management and IT skills)

For implementing CSF 'organisational proximity'

Table 7. Practices for implementing flexible service level agreements (SLA).

S. No.	Practices for implementing 'flexible service level agreements (SLA)' , identified through SLR	% of Practices via SLR (N=65)
1	Effectively manage changes to ensure SLA flexibility	8%
2	Appoint Service level manager who is responsible that the content of the SLA is continuously aligned with the business requirements.	5%
3	Establish mechanism for proper negotiations and mutual consensus on SLA specifications (e.g scope, price, schedule, resource requirements, security provisions, intellectual property rights, and penalties and escalation processes)	28%
4	Establish informal contracting mechanisms, such as trust and relationship specificity, as it can serve as safeguards.	5%

Table 8. Practices for implementing bidirectional transfer of knowledge (BTK).

S. No.	Practices for implementing 'bidirectional transfer of knowledge (BTK)'	% of Practices via SLR (N=65)
1	Explicitly share of information, expectations, and work related concerns during site-visits, conference calls, e-mail exchanges or teleconferencing by using specifications, blueprints and prototypes.	8%
2	Use latest technology and processes for knowledge sharing and management i.e electronic scheduling, groupware, and shared knowledge databases and repositories, intranets, collaborative technologies and social media, Shared cyber space and TMS.	29%
3	Use variance analysis to plan which knowledge is required and where it is required	6%
4	Establish mechanism for knowledge creation and dissemination. e.g how new knowledge can be created and how knowledge of experienced staff can be utilized for new team members	5%
5	Convert tacit knowledge to explicit knowledge by documentation and process description.	5%
6	Conduct domain specific and technical trainings and update skill database and monitor the skill profile	22%

Table 9. Practices for implementing Long-term commitments.

S. No.	Practices for implementing 'Long-term commitments' , identified through SLR	% of Practices via SLR (N=65)
1	Focus on developing trustful relationship with client	9%
2	Offer additional services that will contribute to the development of a mutually beneficial partnership	5%
3	Exert effort and devote resources in order to sustain an on-going relationship	5%
4	Always discuss and share long range plan with client and create "future orientation"	5%

Table 10. Practices for implementing Joint management infrastructure.

S. No.	Practices for implementing 'joint management infrastructure' , identified through SLR	% of Practices via SLR (N=65)
1	Take joint mutually beneficial decisions with client in most problematic circumstances	8%
2	Use of inter-organizational systems such as EDI	5%
3	Make joint investments, such as jointly managing assets used in the relationship (e.g., machinery, vehicles, etc.).	22%
4	Establish a joint configuration management infrastructure.	5%
5	Update the existing steering boards and add some members from the client's company	6%

Table 11. Practices for implementing cross cultural understanding and sensitivity.

S. No.	Practices for implementing 'cross cultural understanding and sensitivity' , identified through SLR	% of Practices via SLR (N=65)
1	Face-to-face meetings are recommended when and where possible, ideally at the start of the project and/or when a new member joins	6%
2	Offer language skills training	12%
3	Understand differences in norms and values	22%
4	Temporarily relocate selected members to client's site	8%
5	Reduce inter-organizational differences	5%
6	Build mixed teams with memberships from different cultural backgrounds by integrating your team with client team	8%

Table 12. Practices for implementing success stories of previous projects.

S. No.	Practices for implementing 'success stories of previous projects' , identified through SLR	% of Practices via SLR (N=65)
1	Maintain reputation and good track record of the previous projects	9%
2	Hire experienced staffs with relevant skills	5%
3	Learn from your past experiences	5%
4	Undertake a pilot project	5%
5	Acquire required licenses and certifications	5%

Table 13. Practices for implementing access to new markets, technologies and complementary skills.

S. No.	Practices for implementing 'access to new markets, technologies and complementary skills' , identified through SLR	`% of Practices via SLR (N=65)
1	Use state-of-the art IT infrastructure (servers, broadband, routers, modems, voice and data circuits etc.)	3%
2	Acquire CMMI certification that helps you to compete better	5%
3	Develop complementary resources and capabilities	17%

Table 14 : Practices for implementing governance and control.

S. No.	Practices for implementing 'Governance and control' , identified through SLR	% of Practices via SLR (N=65)
1	Clearly define roles and responsibilities of the stakeholder as per their competencies	5%
2	Use both formal and informal governance mechanisms	5%
3	Adopt proper mechanism for performance monitoring and incentive, corrective action, and penalty rewards systems	8%
4	Collect performance data from multiple sources and stakeholders and measure employee performance holistically through data, reports, graphs and charts	6%

our SLR study finds out 9 practices. Table 5 memorable that 'organisational proximity' can be best achieved by ensuring the following three practices (% ≥ 15):

i. Offer different skills trainings such as formal communication language, domain-specific and client-specific, logical and analytical reasoning.

ii. Achieve mutual understanding by active cross-cultural communication through short visits of employees and face-to-face meetings when and where possible.

iii. Thoroughly understand provider's business (e.g. work culture, values, core competencies and philosophy).

Table 6 represents 7 practices for CSF 'coordination, cooperation and collaboration'. From the Table 6 it is clear that most suitable practice/solution for addressing 'coordination, cooperation and collaboration' is the following practice (% ≥ 14):

i. Use special collaborative technology like: software configuration management (SCM) applications are used to manage different versions of the components of a software system.

We have found 4 practices for implementing 'flexible service level agreements (SLA)' through SLR. From the Table 7 we have noted that most suitable practice/solution (% ≥ 28) for implementing flexible SLA is:

i. Establish mechanism for proper negotiations and mutual consensus on SLA specifications (e.g scope, price, schedule, resource requirements, security provisions, intellectual property rights, and penalties and escalation processes).

For implementing the 'bidirectional transfer of knowledge (BTK)'CSF our SLR study finds out 6 practices. Table 8 eminent that efficient and effective bidirectional transfer of knowledge can be best achieved by follow the following two practices (% ≥ 22):

i. Use latest technology and processes for knowledge sharing and management i.e electronic scheduling, groupware, and shared knowledge databases and repositories, intranets, collaborative technologies and social media, shared cyber space and TMS.

ii. Conduct domain specific and technical trainings and update skill database and monitor the skill profile. We have found this practice in 14 papers symbolize 22 %.

Table 9 represents 4 practices for CSF 'long-term commitments'. From the Table 9 we noted that most suitable practices/solutions for creating 'Long-term commitments' is the practice (% ≥ 09):

i. Focus on developing trustful relationship with client

We have found 5 practices for CSF 'joint management infrastructure' through SLR study. From the Table 10 we have noted that most suitable practice/solution (% ≥ 22) for implementing joint management infrastructure is:

i. Make joint investments, such as jointly managing assets used in the relationship (e.g., machinery, vehicles, etc.).

For CSF 'cross cultural understanding and sensitivity' our SLR study finds out 6 practices. Table 11 shows that 'cross cultural understanding and sensitivity' can be best developed by keep an eye on the following practice (% ≥ 22):

i. Understand differences in norms and values.

Table 12 represents 5 practices for 'success stories of previous projects' as CSF. From the Table 12 it is clear that through SLR the most suitable practices/ solutions found for 'success stories of previous projects' are the following practice (% ≥ 9):

i. Maintain reputation and good track record of the previous projects

Glancing on Table 13 it can be easily find out that out of 3 practices most suitable practice/ solution for achieving 'Access to new technologies, markets and complementary skills' is :

ii. Develop complementary resources and capabilities. Having reporting in SLR study (% ≥ 17).

Table 14 is the last table presenting 4 practices, it illustrates that for achieving good 'governance and control' we have to:

i. Adopt proper mechanism for performance monitoring and incentive, corrective action, and penalty rewards systems. The above practice having (% ≥ 8) in SLR.

6. STUDY LIMITATIONS

In this section, the threats of validity concerning the SLR study have been discussed. By using our systematic literature review, we extracted data about the practices/solutions for implementing CSF in SOP, but how valid are our findings? One possible threat to internal validity is that for any practice/solution in an article, the author may not in fact have described the underlying cause of practices for CSFs implementation in SOP and also for any specific response; the respondent does not provide the reasons to report practice/solution. We are not able to independently control this treat. With the increasing number of papers in SOP, our SLR process may have missed out some relevant papers. However, like other researchers of SLR this is not a systematic omission [30]. In the present paper we have identified the practices through SLR, which are validated through empirical investigation in outsourcing industry [63].

7. CONCLUSION AND FUTURE WORK

Initially we have identified 142 practices, in total, through SLR for implementing CSF by vendors in SOP relationships. After applying the criterion it was reduced to 88. Our results reveal that focusing on these practices/solutions can help vendor organisations in order to promote their ordinary contractual relationship to outsourcing partnership.

Beside all stated limitations, we are confident in that our study will contribute in academia and industrial domains. This study will:

- Provide SDO vendors, a guiding knowledge that can assist them to implement and design successful outsourcing partnership initiatives. Our results recommend that SDO vendors should adopt all of the reported practices for CSFs especially those reported with greater percentage, in order to gain partner position.
- Increase partnership cohesiveness, as it will guide both sides to understand each other's requirements and goals, in order to sustain long term commitment.
- Provide guidance to SDO client, in making factual choices in terms of continuing, renewing, or terminating their agreements with their current vendor.
- Provide assistance in well understanding of CSFs practices for SOP, to ensure successful partnership.

We have noted the following points, as a future plan, from the findings of this study:

- Will validate the practices identified through SLR by conducting empirical investigation in the outsourcing industry.
- The practices/solutions in SOP relationships from client's perspectives will be identified and analysed.
- To analyses the critical risk in the conversion to, or formation process of SOP from vendor perspective.
- To determine the underlying reasons of why some factors are not important for specific group of SDO organisations.

Our future work will focus on the development of a Software Outsourcing Partnership Model (SOPM). This paper provides input for the development of the second phase of the SOPM, such as the identification of various practices CSFs through SLR. The SOPM will assist SDO vendors in promoting their existing contractual SDO relationship into SOP with client organization. The SOPM will provide guidance and boost the work that has been undertaken on frameworks and models development for outsourcing partnership.

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