

MISQ Research Curation on IS Sourcing

Research Curation Team:

Julia Kotlarsky (University of Auckland)

Ilan Oshri (University of Auckland)

Jens Dibbern (University of Bern)

Deepa Mani (Indian School of Business)

Information Systems (IS) Sourcing is a broad umbrella term that refers to the contracting or delegating of IS- or IT-related work (e.g., an ongoing service or one-off project) to an internal or external entity (a supplier). It encompasses various sourcing models that are typically based on the distinction between *ownership* (in-house or third party) and *location* (domestic, nearshore or offshore), as well as online sourcing models. The significance of this topic for the IS discipline is evident in the number of publications that have addressed different aspects of IS sourcing since 1998 when the first two *MISQ* articles on this topic were published. We have identified 34 publications in *MISQ* on the topic up to Spring 2018. A Special Issue of *MISQ* on IS offshoring published in 2008 was an important step in advancing research on the subject.

1. Focus of the Research Curation

Papers included in this curation address issues directly relating to sourcing decisions, organizing and governing sourcing relationships, and sourcing performance for various sourcing models (i.e., these issues represent core elements of research settings and/or questions), viewed from different perspectives (the client and/or supplier¹), and studied at different levels of analysis (see column five in Table 1).

2. Progression of Research in *MIS Quarterly*

Early studies: 1998–2007

The topic of IS sourcing in *MISQ* started to emerge in 1998 with the publication of papers showing interest in two key issues that have become major research streams in the IS sourcing literature. One is the examination of the determinants of outsourcing decisions (Ang and Straub 1998), and the other is the exploration of factors leading to outsourcing success (Lacity and Willcocks 1998). Several papers that broadened the treatment of the IS sourcing phenomenon were published in the following eight years. One of these articles offered a comparative study of the job design and outcomes between vendor personnel and in-house staff (Ang and Slaughter 2001), while a later article examined the service component in application service provision (ASP) (Susarla et al. 2003). The other studies examined the challenges for intellectual property rights in outsourcing relationships (Walden 2005), the supplier's capabilities and the value proposition (Levina and Ross 2003), and the determinants of outsourcing decisions (Miranda and Kim 2006).

¹ Terms “supplier”, “vendor” and “service provider” are used as synonyms across the papers. For consistency in this curation, we use the term “supplier”, unless referring to a specific paper that uses a different term.

Recent studies: 2008 onwards

2008–2013

The *MISQ* Special Issue on IS offshoring in 2008 was instrumental in expanding the boundaries of IS sourcing research.

Articles published in this Special Issue examined issues such as knowledge processes, learning, production, boundary spanning and sensemaking in onshore-offshore interactions and settings. Other studies in the Special Issue examined the sources of variation among offshore outsourced IS projects in economic performance, determinants of supplier selection on an electronic marketplace platform, and psychological contracting in outsourcing. Another paper published in 2008 examined relationships between business familiarity and trust, contract type and project price (Gefen et al. 2008). Interestingly, as described in “*MISQ* Curation on Trust” (Söllner et al. 2016), trust has been flagged as an important construct in explaining outsourcing relationships (Ågerfalk and Fitzgerald 2008; Gefen et al. 2008; Goo et al. 2009; Rai et al. 2009).

Interest in IS sourcing has grown ever since the Special Issue. In the following five years (2009–2013) we observe the expansion of research to examine topics such as the contribution of IS outsourcing to project performance and the examination of interactions between contractual and relational governance. Other papers have examined the determinants of risks in an offshoring decision, internationalization of Chinese suppliers, and the role of an organizational control balancing act in offshoring.

2014 onwards

The topic has maintained a high level of interest. Papers published since 2014 have extended the treatment of IS outsourcing to include knowledge and coordination for onsite-offshore collaboration (Kotlarsky et al. 2014) and the interactions of relational and contractual governance (Benaroch et al. 2016). Other articles have examined IS outsourcing with a focus on cultural sensemaking (Su 2015), values of crowd-workers (Deng et al. 2016), conditions to share intellectual property rights (Chen et al. 2017), asset transfer, and the implications for contract design (Chang et al. 2017), and work design (Oshri et al. 2018).

Research methods

The *MISQ* papers on IS sourcing published between 1998 and early 2018 demonstrate a rich diversity of research methods, including surveys (e.g., Ang and Straub 1998; Ang and Slaughter 2001); case studies in different offshore contexts, including Mexico (Leonardi and Bailey 2008), Russia (Levina and Vaast 2008), Ireland (Holmstrom-Olsson et al. 2008), China (Su 2013; Su 2015; Oshri et al. 2018), and India (Dibbern et al. 2008; Vlaar et al. 2008; Gregory et al. 2013; Kotlarsky et al. 2014); and econometric methods (e.g., Walden 2005; Cha et al. 2008; Ramasubbu et al. 2008; Hahn et al. 2009; Han and Mithas 2013).

Theoretical perspectives

A range of theories have been used in IS sourcing studies. From an economics perspective, transaction cost economics (TCE) is the most commonly used lens (e.g., Ang and Straub 1998; Walden 2005; Dibbern et al. 2008; Hahn et al. 2009; Han and Mithas 2013; Su 2013; Benaroch et al. 2016; Chang et al. 2017). From a social and relational perspective, theories used include:

social exchange (Ang and Slaughter 2001), psychological contract (Ågerfalk and Fitzgerald 2008), social embeddedness (Rai et al. 2009), relational exchange theory (Holmstrom-Olsson et al. 2008; Goo et al. 2009; Gopal and Koka 2012), and trust (Gefen et al. 2008). Other theoretical perspectives that have been used include: agency theory (e.g., Gefen and Carmel 2008), information processing theory (Mani et al. 2010), organizational controls (Gregory et al. 2013), coordination theory (Kotlarsky et al. 2014), knowledge-based theory (e.g., Chang and Gurbaxani 2012), and practice theory (Levina and Vaast 2008).

While the use of economic theories dominates in the earlier work, recent studies employ a wide range of theories, including organizational, social and cognitive. In the way theoretical perspectives have been applied to study IS sourcing, some papers have used single theories, others have used a combination of theories in a complementary way (e.g., TCE is used as the dominant theory and is complemented by another theoretical perspective), and a few studies have used multiple theories from a competing/rival perspectives (e.g., Dibbern et al. 2008; Oshri et al. 2018).

3. Thematic Advances in Knowledge

Our analysis of the *MISQ* papers on IS sourcing, listed in Table 1, suggests that the papers can be grouped into three thematic clusters that reflect consecutive phases in the IS sourcing lifecycle: (1) Making the sourcing decision; (2) Designing contractual structures; and (3) Managing the sourcing relationship.

Making the sourcing decision

Sourcing decisions have been studied from either the client or the supplier perspective. Most studies have taken the *client perspective* and have focused on the following aspects of *sourcing choices*:

- Whether, and to what degree, to outsource an organization's IS (functions, tasks, projects, professionals) (Ang and Straub 1998; Lacity and Willcocks 1998; Ang and Slaughter 2001; Miranda and Kim 2006; Chang and Gurbaxani 2012; Han and Mithas 2013; Angst et al. 2017);
- Whether to adopt a specific IT-enabled service provision model, such as Application Service Provision (ASP) (Susarla et al. 2003);
- Whether to retain property rights (Chang et al. 2017);
- Whether to choose a domestic or offshore provider (Gefen and Carmel 2008);
- Which project and supplier to choose to limit the client's extra costs (Dibbern et al. 2008);
- Where to offshore-outsource (i.e., which host country) and the accompanying destination risks (Hahn et al. 2009).

Studies taking a *supplier perspective* have informed the following *sourcing choices*:

- The supplier's strategy and value proposition based on understanding the supplier's core capabilities and complementary assets (Levina and Ross 2003);
- The supplier's internationalization strategy from the perspective of an emerging economy (Su 2013).

The majority of papers in this first cluster used the TCE theory, either as a single theory or in combination with other theories, such as the resource- or knowledge-based view, coordination theory, production economies, and institutional theory. Most studies on the IS sourcing decision have used cross-sectional research designs, and have integrated time-dependent contextual aspects, such as the supplier's absorptive capacity, the client's complementary investments in sourcing skills, and learning from experiences to understand sourcing decisions.

Regarding the studies that examined the *outcome* of the sourcing decision, most focused on the outsourcing contract as the unit of analysis and examined different facets of outsourcing success, including achievement of expected cost savings (Lacity and Willcocks 1998), satisfaction with outsourcing (Susarla et al. 2003), or incurrence of extra costs (Dibbern et al. 2008). One study, adopting an individual level perspective, examined differences in the performance of in-house versus contracted IS professionals (Ang and Slaughter 2001). Several studies investigated the implications of the sourcing decision on success at the firm level; i.e., whether and under which circumstances IS outsourcing reduces non-IT operating costs (Han and Mithas 2013) and leads to productivity gains (Chang and Gurbaxani 2012).

Designing contractual structures

The contract structure, which refers to the formalization of hierarchical control and the division of risks and incentives thereof in the outsourcing relationship, has been studied in a large part from the client's perspective. A notable exception is Gopal and Koka (2012), who focused on the supplier's perspective. Papers included in this cluster distinguished between contractual structures in two ways:

- *The degree of hierarchical elements in different contractual structures*: e.g., equity arrangements such as joint ventures and arm's length contracts vary in terms of the extent to which they replicate the control and coordination features of vertically integrated organizations Mani et al. (2010);
- *The division of risks and incentives between the client and supplier* in arm's length contracts: fixed-price (FP), cost-plus (CP) or time-and-materials (T&M) compensations are considered as the dominant classifications (Gefen et al. 2008; Gopal and Koka 2012; Benaroch et al. 2016).

Notwithstanding the conceptualization of contractual structures, the papers in this second cluster studied incentive alignments that engender *cooperation* between the client and supplier. Specifically, these studies focused on the following issues:

- (i) *Interaction between contract type and other mechanisms of control and coordination* (Gefen et al. 2008; Mani et al. 2010; Gopal and Koka 2012; Benaroch et al. 2016): these studies largely drew on TCE and agency theory, with the exception of Mani et al. (2010) who took an information processing view of outsourcing relationships;
- (ii) *Ex ante incentives for cooperative efforts in the presence of incomplete contracts* (Walden 2005; Chang et al. 2017), leveraging the property rights view.

The studies highlighted that the *contract*, while instrumental in aligning incentives between the client and supplier and achieving cooperation, is limited in its ability to actually coordinate actions between the client and supplier. Therefore, once the contract is in place, the focus shifts to managing the sourcing relationship to integrate efforts for task execution.

All the papers in this cluster are quantitative papers; half of them used econometric modeling.

Managing the sourcing relationship

The third cluster encompasses papers that focused on *managing ongoing sourcing relationships*. These papers highlighted various boundaries between clients and suppliers (Rai et al. 2009; Oshri et al. 2018) and/or between onsite and offshore teams (Leonardi and Bailey 2008; Levina and Vaast 2008; Vlaar et al. 2008; Kotlarsky et al. 2014), and offered theoretical contributions to expand the knowledge of how sourcing engagements could be managed successfully.

The first papers on managing sourcing processes were published in the Special Issue on IS offshoring in 2008. Since then, there has been increasing interest in understanding various aspects of ongoing sourcing relationships.

The two main issues that are brought to the fore by these papers are:

- *Knowledge boundaries* (e.g., Cha et al. 2008; Leonardi and Bailey 2008; Levina and Vaast 2008; Ramasubbu et al. 2008; Vlaar et al. 2008; Kotlarsky et al. 2014; Oshri et al. 2018);
- *The dynamics of ongoing sourcing relationships* that are addressed through relational aspects, such as cultural adjustments (Rai et al. 2009; Su 2015), and contractual (i.e., formal) mechanisms (Goo et al. 2009), such as control (Gregory et al. 2013).

These papers offered practices or strategies rooted in relational and contractual governance that facilitate knowledge processes between client and supplier firms and/or onsite-offshore teams aiming to accommodate the dynamic nature of sourcing relationships. Furthermore, in studies that focused on crowdsourcing (Ågerfalk and Fitzgerald 2008; Gefen and Carmel 2008) – a model that is suitable for the sourcing of small IT projects via electronic marketplaces – the motivation for the engagement has been investigated from the client (Ågerfalk and Fitzgerald 2008) and crowd-worker (Deng et al. 2016) or crowd-community (Ågerfalk and Fitzgerald 2008) perspectives.

The majority of papers included in this cluster are qualitative papers, some using revelatory case studies (e.g., Holmstrom-Olsson et al. 2008; Oshri et al. 2018), that enrich our understanding of dynamic processes in managing IS outsourcing relationships.

The papers adopted a variety of theories from other disciplines. For example, organizational and cognitive theories adopted include: organizational learning theory (Cha et al. 2008; Ramasubbu et al. 2008), coordination theory (Ramasubbu et al. 2008; Kotlarsky et al. 2014), organizational control theory (Goo et al. 2009; Gregory et al. 2013), relational theories (Holmstrom-Olsson et al. 2008; Goo et al. 2009; Rai et al. 2009), sensemaking (Vlaar et al. 2008; Su 2015), and a semiotic view borrowed from linguistics (Oshri et al. 2018).

4. Conclusion

IS sourcing has gained significant attention from the IS community, demonstrating the centrality of IS sourcing for organizations, technology and the IS function. Papers on IS sourcing published in *MISQ* reflect the pace in which technologies change their business environment and affect society, leading to the emergence of new sourcing models, new ways of managing sourcing relationships, and a greater understanding of the factors imperative to making sourcing decisions – all in the pursuit of improving sourcing performance. This

curation contributes to the further development of the IS sourcing field by reviewing the various themes, theories and methods covered in *MISQ* publications. It should help future research to position itself in this growing field of research.

Please cite this curation as follows: Kotlarsky, J., Oshri, I., Dibbern, J., Mani, D., “IS Sourcing,” in *MIS Quarterly* Research Curations, Ashley Bush and Arun Rai, Eds., <http://misq.org/research-curations>, July 1, 2018.

Please feel free to contact Julia Kotlarsky (j.kotlarsky@auckland.ac.nz) if you have any comments or questions regarding this curation.

Table 1. MIS Quarterly Papers on IS Sourcing: Focus, Approach and Insights

No	Authors	Title	Year, vol (f)	Sourcing model, perspective and level of analysis	Function / service	Research focus (cluster #)	Theoretical perspective	Method	Key insights
1	Ilan Oshri, Ola Henriçsson, and Julia Kotlarsky	Re-representation as Work Design in Outsourcing: A Semiotic View	2018, 42 (1)	Outsourcing; supplier perspective; project/ service level	BPO of document management	Supplier's work design that involves innovative use of digital technology for re-representing the outsourced work through new conventions and the creation of special-purpose language (cluster #3)	Semiotics	Qualitative multiple case study (genealogy project in old German language and airline service in English language) in Chinese BPO firm	A semiotic view on outsourcing work design in which the use of digital technologies creates an opportunity to re-represent the meaning of a work-package, thus re-defining the expertise needed to deliver services.
2	Corey M. Argst, Kaitlin D. Wowak, Sean M. Handley, and Ken Kelley	Antecedents of Information Systems Sourcing Strategies in U.S. Hospitals: A Longitudinal Study	2017, 41 (4)	Single or multiple supplier configuration; client perspective; firm level	Electronic Medical Record System (EMRS) suite in hospitals	Sourcing configuration of EMRS suite: how it changes over time (cluster #1)	Institutional theory	Longitudinal modeling combined with sequence analysis techniques of panel data from U.S. hospitals for the period 2005–2013	Larger hospitals migrate toward single-sourcing of EMRS suite faster than smaller hospitals; but hospitals that are members of a larger health system migrate to single-sourcing slower than those in smaller health systems. Also, teaching hospitals migrate to single-sourcing faster than non-teaching hospitals. Findings suggest that sourcing strategies of EMRS are context-specific, shaped by some key organizational-level characteristics.
3	Young Bong Chang, Vijay Gurbakani, and Kiran Ravindran	Information Technology Outsourcing: Asset Transfer and the Role of Contract	2017, 41 (3) RN ²	Outsourcing; client perspective; firm level	IT outsourcing	Governance of outsourcing relationships: contract design and asset transfer (cluster #2)	Transaction cost economics (TCE); property rights theory	Econometric modeling and analysis of survey data of ITO contracts from 44 North American firms	Asset transfer in IT outsourcing contracts significantly affects contract design, and is manifested in the inclusion of clauses that protect both clients and vendors. Outsourcing objectives are more likely to be met when contracts include compensation mechanisms that complement asset transfer.
4	Yuan Yuan Chen, Anandhi Bharadwaj, and Khim-Yong Goh	An Empirical Analysis of Intellectual Property Rights Sharing in Software Development Outsourcing	2017, 41 (1)	Outsourcing; client perspective; firm level	Software development outsourcing (SDO)	Determinants of assignment of ownership rights to either client or vendor for five types of assets (software program, database, preparative material, derivatives, and others) (cluster #1)	Property rights theory	Content analysis of 171 SDO contracts, 163 US and 8 UK companies between 1992 and 2007	Clients are more likely to retain intellectual property rights if software development is modularized, specifically for novel software development projects. Sharing of property rights is more likely if relying on the vendor's proprietary software property rights, specifically in software customization projects.

5	Xuefei (Nancy) Deng, K. D. Joshi, and Robert D. Galliers	The Duality of Empowerment and Marginalization in Microtask Crowdsourcing: Giving Voice to the Less Powerful Through Value Sensitive Design	2016, 40 (2)	Micro-task crowdsourcing; supplier (crowd worker) perspective; individual level	Micro-tasks, low-end tasks such as video and audio transcription, classification, and document categorization	Examine empowerment and marginalization of crowd workers by studying the values they associate with their involvement in micro-task crowdsourcing (cluster #3)	Value sensitive design	Qualitative survey and analysis of narratives of 210 crowd workers participating in Amazon's Mechanical Turk (MTurk)	Identification of 9 values crowd-workers share: access, autonomy, fairness, transparency, communication, security, accountability, making an impact and dignity. Empowerment and marginalization simultaneously co-exist in micro-task crowdsourcing.
6	Michel Benaroch, Yossi Lichtenstein, and Lior Fink	Contract Design Choices and the Balance of Ex Ante and Ex Post Transaction Costs in Software Development Outsourcing	2016, 40 (1)	Outsourcing; client perspective; contract level	Software development	Contract design: type (T&M vs. FP) and contract extensiveness (functions covered; i.e., safeguarding, coordination, and adaptability) (cluster #2)	TCE: agency theory, knowledge-based view	Regression analysis of 210 contracts from archival contract repository of the IT department in a large international bank	Transactional and relational attributes, such as uncertainty, complexity, and vendor familiarity, differ in their impact on contract type and contract extensiveness, as well as on function-specific contract extensiveness (i.e., on safeguarding, coordination, and adaptability).
7	Ning Su	Cultural Sensemaking in Offshore Information Technology Service Suppliers: A Cultural Frame Perspective	2015, 39 (4) RN	Offshore-outsourcing; supplier perspective; individual level	IT services	Process of cultural sensemaking (cluster #3)	Cultural frames (as the dynamic constructivist view of culture); sensemaking	Qualitative case study in a China-based firm	A portfolio of cultural frames emerges and evolves through individuals' sensemaking activities, which consist of the iterative enactment, alignment, and retention of cultural frames. In the cultural sensemaking process, the activity of frame bridging, in particular, creates significant value for the outsourcing relationship, and is especially salient among bicultural employees.
8	Julia Kotlarsky, Harry Scarbrough, and Ilan Oshri	Coordinating Expertise Across Knowledge Boundaries in Offshore-Outsourcing Projects: The Role of Codification	2014, 38 (2)	Offshore-outsourcing; supplier perspective; counterparts onsite and offshore	Application development and maintenance	Expertise coordination challenges across client-onsite-offshore counterparts and the role that codification plays in coordinating such expertise (cluster #3)	Expertise coordination and knowledge boundaries	Qualitative case study including teams in Netherlands and India	Codification is a dynamic concept playing multiple, co-existing roles when expertise is coordinated across time and space. The paper highlights the importance of codifying the "knowler", which is complementary to the common view of codification as knowledge replication and diffusion.
9	Robert Wayne Gregory, Roman Beck, and Mark Keil	Control Balancing in Information Systems Development Offshoring Projects	2013, 37 (4)	Offshore-outsourcing; client and supplier perspectives; outsourcing engagement level	IS development	Dynamic control configurations; control balancing (cluster #3)	Organizational, relational governance	Qualitative longitudinal case study involving client (in Germany) and vendor (in India), using grounded theory approach	Introducing Control Balancing as an adjustment act to control configurations along three dimensions: control type, control degree and control style, thus advancing research on organizational control from single dimensional to multi-dimensional balancing act. The paper offers a process model of Control Balancing.

10	Ning Su	Internationalization Strategies of Chinese IT Service Suppliers	2013, 37 (1)	Offshore-outsourcing; supplier perspective; firm level	IT services	Internationalization strategies of IT service suppliers from emerging economies (specifically, China); strategy formation and decision rationale (cluster #1)	International entrepreneurship with specific reference to TCE and RBV theories	Qualitative case study of China-based IT service firms (60 interviews in one firm and 35 interviews across 12 firms)	Major Chinese IT suppliers include firms that incrementally internationalize and firms that are "born global". For both types of firms, the entry and growth in different markets is a highly dynamic activity combining a strategically planned, resource-seeking process and a flexible, opportunistic brokerage process based on existing operation capabilities and client relationships.
11	Kunsoo Han and Sunil Mithas	Information Technology Outsourcing and Non-IT Operating Costs: An Empirical Investigation	2013, 37 (1)	Outsourcing; client perspective; firm level	IT	Whether internal IT investments moderate the relationship between IT outsourcing and non-IT operating costs (cluster #1)	TCE; the concept of coordination	Econometric modeling and empirical analysis of data on IT investments from 281 firms with IT outsourcing arrangements and non-outsourcing firms between 1999 and 2003	Overall, IT outsourcing reduces firms' non-IT operating costs. However, this reduction in costs occurs when firms also have higher levels of complementary investments in internal IT, in particular IT labor. Complementary investments in internal IT staff facilitate better monitoring and coordination with vendors.
12	Anandaviam Gopal and Balaji R. Koka	The Asymmetric Benefits of Relational Flexibility: Evidence from Software Development Outsourcing	2012, 36 (2)	Offshore-outsourcing; supplier perspective; firm level	Software development projects	Relationship between contract choice (FP vs. T&M) and relational governance and its impact on vendor profitability and project quality (cluster #2)	Relational exchange theory	Questionnaire survey and company data from one Indian vendor on 105 software projects for multiple clients	Relational flexibility has asymmetric benefits. In FP contracts, it only enhances profitability but not project quality; in T&M contracts, it only enhances project quality but not profitability.
13	Young Bong Chang and Vijay Gurbaxani	Information Technology Outsourcing, Knowledge Transfer, and Firm Productivity: An Empirical Analysis	2012, 36 (4)	Outsourcing; client perspective; firm level	IT services	Conditions for productivity gains through IT outsourcing (cluster #1)	Knowledge-based theory	Econometric modeling and empirical analysis of data on IT outsourcing announcements between 1991–1999 from 97 firms with IT outsourcing arrangements and 520 non-outsourcing firms	IT outsourcing can lead to productivity gains for clients through IT-related knowledge held by IT services vendors, specifically for clients with high IT intensity and with high propensity for outsourcing.
14	Deepa Mani, Anitesh Barua, and Andrew Whinston	An Empirical Analysis of the Impact of Information Capabilities Design on Business Process Outsourcing Performance	2010, 34 (1)	Outsourcing; client perspective; firm level	IT and IT-enabled business processes	Governance of outsourcing relationships: the fit requirements and information capabilities of BPO relationship on BPO performance (cluster #2)	Information processing view of the firm	Econometric modeling and empirical analysis of survey data of 127 firms on their active BPO relationships	Performance heterogeneity across BPO exchanges is a function of the design of information capabilities (IC) that fit the unique information requirements (IR) of the exchange. IR is an outcome of the complexity and interdependencies of the outsourced task. IC may be conceptualized in terms of not just the governing contractual structure but also relational processes and technologies that effect the contract.

15	Anun Rai, Likoebe M. Maruping, and Viswanath Venkatesh	Offshore Information Systems Project Success: The Role of Social Embeddedness and Cultural Characteristics	2009, 33 (3)	Offshore-outsourcing; client perspective; project level	Software projects	How and why relational factors affect the success of offshore IS projects that are strategic in nature (cluster #3)	Agency theory, social embeddedness and relational perspectives	Longitudinal field study of 155 offshore software projects for US clients managed by 22 project leaders, including survey on cultural values collected from project leaders at the beginning and end of the project	To successfully leverage offshoring, firms should invest in: (a) Creating structures for joint problem-solving, information exchange, and development of trust; (b) Ensuring compatibility of work norms and practices with those of the vendor; (c) Minimizing dissimilarities in cultural values between the client and vendor at the organizational and team levels. The presence of client representative on the project increases the above effects on offshoring success.
16	Eugene D. Hahn, Jonathan P. Doh, and Kralwinee Bunyaratavej	The Evolution of Risk in Information Systems Offshoring: The Impact of Home Country Risk, Firm Learning, and Competitive Dynamics	2009, 33 (3)	Outsourcing; client perspective; firm and project levels	IT and software projects	Determinants of risks in offshoring decisions: predicting firm-level risk for locating offshore IS facilities (cluster #1)	TCE; theoretical perspectives from international strategy and multinational management literature	Econometric modeling and empirical analyses of proprietary data of 855 IT and software projects associated with 624 firms (from Foreign Direct Investment database) in 55 host countries worldwide between 2000 and 2005	The decision of firms to accept increasing levels of destination (host country) risk in offshoring IT projects is determined by firm-specific experience and the core "risk gap" between home and host country. However, these effects begin to dissipate as the effect of total risk assumed by offshoring participants in the competitive environment of the firm is taken into account, emphasizing that broader dynamics in the competitive environment of firms is an important determinant of their decision to engage in IS offshoring in high-risk locations.
17	Jahyun Goo, Rajiv Kishore, H. R. Rao, and Kichan Nam	The Role of Service Level Agreements in Relational Management of Information Technology Outsourcing: An Empirical Study	2009, 33 (1)	Outsourcing, client perspective; firm level	IT	Complementarity of contractual (SLAs-based) and relational governance, and their impact on trust and commitment (cluster #3)	TCE, relational exchange theory	Survey of 92 South Korean IT executives selected as "key informants"	More detailed SLAs with regards to foundation, change, and governance characteristics are generally positively related to relational governance attributes, such as relational norms, and relationship quality (i.e., trust and commitment). If combined, however, only foundation and governance characteristics are complementary to relational attributes in their impact on relationship quality. By contrast, change characteristics and relational attributes substitute each other in their impact on relationship quality.
18	David Gefen, Simon Wyss, and Yossi Lichtenstein	Business Familiarity as Risk Mitigation in Software Development Outsourcing Contracts	2008, 32 (3)	Outsourcing; client perspective; contract level	Software development	The role of business familiarity in determining contract type (FP vs. T&M), project price and contract penalty (cluster #2)	Integrating trust theory into agency theory and into incomplete contract theory	Quantitative analysis of data from 274 outsourcing contracts (181 FP, 57 TM, and 36 hybrid between 2000 and 2003) by a large European bank	Business familiarity does not influence project price or penalties directly, but it increases the likelihood of choosing a T&M contract which are related to lower penalties.

19	Paul W. L. Vlaar, Paul C. van Fenema, and Vinay Tiwari	Co-creating Value in Distributed Work: How Members of Onsite and Offshore Vendor Teams Give, Make, Demand, and Break Sense	2008, 32 (2) SI on ISO ³	Offshore-outsourcing; supplier perspective; onsite and offshore	Software development	Communication processes in globally distributed onsite-offshore teams (cluster #3)	Socio-cognitive processes of sensemaking; the concepts "understanding" and "communication" as rooted in the literature on distributed work	Qualitative case study of onsite (USA) and offshore (India) project team complemented by a survey (8 onsite and 10 offshore team members)	Through socio-cognitive communication processes that rely on sense-giving, sense-demanding and sense-breaking, members of onsite and offshore vendor teams deal with knowledge differences and task ambiguities. These processes facilitate cocreation of shared understanding, which is essential for amplifying performance of globally distributed teams.
20	Natalia Levina and Emmanuelle Vaast	Innovating or Doing as Told? Status Differences and Overlapping Boundaries in Offshore Collaboration	2008, 32 (2) SI on ISO	Offshore-outsourcing and captive client-captive-supplier perspective; counterparts (individuals/sites)	IT projects	Understanding collaborative practices in offshored projects (cluster #3)	Practice theory; the concept of boundaries	Qualitative case study of a global bank sourcing via captive centers and offshore vendors. Onshore locations - Western Europe and USA, offshore locations India and Russia. Uses grounded theory approach	Differences in country contexts give rise to a number of boundaries that inhibit collaboration effectiveness. Differences in organizational contexts are largely mediated through organizational practices that treat vendors and captive units similarly. Middle managers can use various types of capital to help others renegotiate these boundaries and alleviate status differences.
21	Jens Dibbern, Jessica Winkler, and Armin Heinzl	Explaining Variations in Client Extra Costs Between Software Projects Offshored to India	2008, 32 (2) SI on ISO	Captive offshoring; client perspective; project level	Software development	Post-contractual costs that are experienced by client firms (cluster #1)	TCE; KBV; absorptive capacity	Qualitative multiple case study of 6 projects offshored to India by a large German firm	A client incurs post-contractual extra costs for four types of activities: (1) Requirements specification and design, (2) Knowledge transfer, (3) Control, and, (4) Coordination. A client's extra costs substantially differ between projects, depending on the interaction between task-, vendor-, and offshore-specific characteristics.
22	Narayan Ramasubbu, Sunil Mithas, M. S. Krishnan, and Chris F. Kemerer	Work Dispersion, Process-Based Learning, and Offshore Software Development Performance	2008, 32 (2) SI on ISO	Offshoring; supplier perspective; project level	Software development	Investigating the impact of work dispersion, CMM process investment and learning routines on offshore project productivity and quality (cluster #3)	Software development viewed as economic production process; organizational learning	Econometric modeling and empirical analyses of archival field data about 42 CMMI level-5 projects for US clients completed by large offshore service company from development centers based in US and India	Investments in structured processes mute the adverse effects of dispersed work in offshore software development. However, these benefits of software process improvement initiatives can be realized only when corresponding investments are made to utilize these initiatives for learning activities that enable the creation and assimilation of new knowledge. Further, while investments in conceptual learning improve quality, investments in operational learning improve productivity. Thus, the interplay between investments in structured processes and different process-based learning activities is critical to the economic returns realized from software offshoring.

23	Helena Hilmstrom Olsson, Eoin O Conchuir, Pär J. Ågerfalk, and Brian Fitzgerald	Two-Stage Offshoring: An Investigation of the Irish Bridge	2008, 32 (2) SI on ISO	Captive offshoring; client and supplier perspectives; "bridging" captive unit perspective	Software development	The dual bridge role of offshore captives in a two-stage offshoring relationship (cluster #3)	Relational exchange theory	Qualitative multiple case study of Irish captive sites of a large US-based firm (the Irish sites in turn offshore work further to Asia)	The two-stage "bridge model" is recognized as a multi-stage offshore sourcing strategy. Approaches to implementing this bridge model may differ in relation to team integration, site hierarchy and organizational level implementation.
24	David Gefen and Eran Carmel	Is the World Really Flat? A Look at Offshoring in an Online Programming Marketplace	2008, 32 (2) SI on ISO	Offshoring; client perspective; project level	Small IT projects	Preference for domestic versus offshore located provider (cluster #1)	Agency theory	263,000 bids by over 31,000 providers from 70 countries on over 20,000 small IT projects requested by over 7,900 clients from 59 countries in an online programming marketplace over 38 months	Irrespective of the geographic location of the vendor (domestic or offshore), the winning bid is most strongly determined by client loyalty, i.e., a previous relationship with a vendor. Otherwise, domestic vendors are generally preferred, except if the client and vendor both stem from an English-speaking country and except for US clients that tend to prefer offshore locations. Relative bid price and relative country purchasing power also play a role.
25	Paul M. Leonardi and Diane E. Bailey	Transformational Technologies and the Creation of New Work Practices: Making Implicit Knowledge Explicit in Task-Based Offshoring	2008, 32 (2) SI on ISO	Captive offshoring; client perspective; counterparts (individuals/sites)	Offshored design engineering	The challenges of the transfer of occupational knowledge across time and space when transformational technologies are in use (cluster #3)	boundaries	Qualitative case study of product development distributed between 3 sites: the home sites in the US and Mexico, and offshore site in India, complemented by a survey	The study proposes five work practices employed by remote counterparts to overcome the transfer of occupational knowledge in light of the expertise differential between home and offshore sites.
26	Hoon S. Cha, David E. Pinyrg, and Matt E. Thatcher	Managing the Knowledge Supply Chain: An Organizational Learning Model of Information Technology Offshore Outsourcing	2008, 32 (2) SI on ISO	Offshore-outsourcing; client perspective; firm level	Design, development, and support of more mission-critical software applications	Conditions for production costs savings through learning (cluster #3)	TCE; organizational learning theory	Econometric modeling; economic learning model illustrated with a case of a US financial insurance company outsourcing to an India-based offshore vendor	Under certain conditions, selective offshoring can help client firms reduce in-house IS production costs. Specifically, if clients sufficiently invest into learning from the vendor through knowledge transfer and learning by doing, total cost savings may be more likely achieved in the long run.
27	Pär J. Ågerfalk and Brian Fitzgerald	Outsourcing to an Unknown Workforce: Exploring OpenSourcing as a Global Sourcing Strategy	2008, 32 (2) SI on ISO	Open Source Software (OSS) sourcing as offshore outsourcing mode; client and supplier perspectives; project, company and community levels	Software development	Client's and open source community's responsibilities (obligations) associated with opensourcing success (cluster #3)	Psychological contract theory	Qualitative multiple case study; one main OSS project complemented by interviews from 2 more OSS projects. Quantitative survey of 207 respondents that represented a client company (56%) and open source community (44%)	The customer and community of developers need to establish a partnership of shared responsibility that relies on trust, tact, professionalism and complementarity. OSS is shifting from being a community of individual developers to include commercial organizations (in particular SMEs) operating as a symbiotic eco-system in a spirit of co-opetition.

28	Shaila M. Miranda and Yong-Mi Kim	Professional Versus Political Contexts: Institutional Mitigation and the Transaction Cost Heuristic in Information Systems Outsourcing	2006, 30 (3)	Outsourcing; client perspective; firm level	IS outsourcing	How the nature of the institutions underlying the city government environments may be expected to circumscribe governments' application of the TCE logic to the outsourcing decision (cluster #1)	TCE; institutional theory	Survey of 214 IS managers in city governments within the US	The extent of outsourcing in political contexts is positively related to higher levels of asset specificity, uncertainty, bounded rationality, and lower levels of transactional frequency. The extent of outsourcing in professional contexts is related to higher levels of uncertainty, lower levels of opportunism, and higher transactional frequency. The applicability of the logic of transaction costs is, therefore, contingent on the institutional context of decision-makers.
29	Eric A. Waiden	Intellectual Property Rights and Cannibalization in Information Technology Outsourcing Contracts	2005, 29 (4)	Outsourcing; client and supplier perspective; dyad level	Software outsourcing	How intellectual property rights in the software created during IT outsourcing relationships should be divided between client and supplier (cluster #2)	Property rights approach; TCE	Econometric modeling: analytical model of client-vendor ownership structures	Standard property rights that apply to physical assets do not easily extend to software assets that permit a separation of excludability and usability. The potential for cannibalization distorts incentives in outsourcing relationships. In this context, the optimal allocation of intellectual property rights depends on the ability of each firm to enhance the internal usefulness and external marketability of the intellectual property, as well as loss of competitive value from the wide-scale distribution of the intellectual property.
30	Natalia Levina and Jeanne W. Ross	From the Vendor's Perspective: Exploring the Value Proposition in Information Technology Outsourcing	2003, 27 (3)	Outsourcing; supplier perspective; outsourcing engagement level	IT application management for HR function	Supplier capabilities and value propositions (cluster #1)	The concept of complementarity in organizational design and core competencies	Qualitative case study of an outsourcing engagement between a North American vendor and a client, involved supplier (18) and client (10) personnel; relied on grounded theory approach	The vendor's efficiency in service delivery is based on the economic benefits derived from the ability to develop a complementary set of core competencies that address the client's needs and market conditions. This ability relies on the centralization of decision rights from a variety of IT projects across multiple clients.
31	Anjana Susarla, Anitesh Barua and Andrew B. Whinston	Understanding the Service Component of Application Service Provision: An Empirical Analysis of Satisfaction with ASP Services	2003, 27 (1)	ASP services; client perspective; firm level	Application services	Determinants of service satisfaction in ASP (cluster #1)	Theories of consumer satisfaction	Conceptual model was tested, based on a survey of 256 firms using ASP services, that was developed after initial exploratory survey	Prior expectations about the ASP service (based on technical guarantees and functional capabilities of the ASP) have a significant impact on the performance evaluation of the ASP. Experience-based norms (as manifest in the maturity of internal IT, prior internet usages and prior systems integration) have only limited significance in explaining satisfaction with the ASP. Perceived performance and disconfirmation (or discrepancy between expected and actual performance) also significantly impact satisfaction with the ASP.

32	Soon Ang and Sandra A. Slaughter	Work Outcomes and Job Design for Contract versus Permanent Information Systems on Software Development Teams	2001, 25 (3)	In-sourcing; client and supplier (contracted employee) perspective; self, peer, and immediate supervisor perspectives	Software development	Explaining differences in attitudes and job performance between in-house and contracted professionals (cluster #1)	Social exchange theory, social comparison	Survey of 15 contract professionals and 48 permanent (in-house) professionals, of whom 11 were supervisors in large transportation company. Complemented by qualitative multiple cases in 3 organizations (12 interviews)	Vendor personnel differs from permanent professionals in their job attitudes and their performance as perceived by their subordinates. This can be explained by differences in how subordinates design jobs, especially the scope of work.
33	Soon Ang and Delmar W. Straub	Production and Transaction Economics and IS Outsourcing: A Study of the U.S. Banking Industry	1998, 22 (4)	Outsourcing; client perspective; firm level	IT	Economic determinants of the degree of IS outsourcing (cluster #1)	TCE; production economies	Survey of senior IT managers in 234 US banks complemented by archived data from Federal Reserve Bank	Production costs are more influential on the outsourcing decision than transaction costs.
34	Mary C. Lacity and Leslie P. Willcocks	An Empirical Investigation of Information Technology Sourcing Practices: Lessons from Experience	1998, 22 (3)	Outsourcing; client perspective; firm level	IT	Understanding factors leading to successful IT outsourcing based on participants' perceptions (anticipated and hoped-for outcomes) and their outsourcing decisions (cluster #1)	N/A ("New insights are offered by comparing the case company experiences to market trends" (p.364)	Qualitative data that covering 61 IT sourcing decisions in 40 organizations (19 in the US and 21 in the UK), total 145 interviews of business executives, CIOs, outsourcing consultants, and vendor account managers	Five best practices were identified for delivering IT outsourcing success, measured here as expected cost savings achieved. These practices highlight the importance of: (1) selective outsourcing decisions, (2) joint decision-making by senior executives and IT managers, (3) inviting both internal and external bids, (4) short-term contracts, and (5) detailed fee-for-service contracts.

References

- Ågerfalk, P. J., and Fitzgerald, B. 2008. "Outsourcing to an Unknown Workforce: Exploring Opensourcing as a Global Sourcing Strategy," *MIS Quarterly* (32:2), pp. 385-409.
- Ang, S., and Slaughter, S. A. 2001. "Work Outcomes and Job Design for Contract Versus Permanent Information Systems Professionals on Software Development Teams," *MIS Quarterly* (25:3), pp. 321-350.
- Ang, S., and Straub, D. 1998. "Production and Transaction Economies and Is Outsourcing: A Study of the U.S. Banking Industry," *MIS Quarterly* (22:4), pp. 535-552.
- Angst, C. M., Wowak, K. D., Handley, S. M., and Kelley, K. 2017. "Antecedents of Information Systems Sourcing Strategies in U.S. Hospitals: A Longitudinal Study," *MIS Quarterly* (41:4), pp. 1129-1152.
- Benaroch, M., Lichtenstein, Y., and Fink, L. 2016. "Contract Design Choices and the Balance of Ex Ante and Ex Post Transaction Costs in Software Development Outsourcing," *MIS Quarterly* (40:1), pp. 57-82.
- Cha, H. S., Pingry, D. E., and Thatcher, M. E. 2008. "Managing the Knowledge Supply Chain: An Organizational Learning Model of Information Technology Offshore Outsourcing," *MIS Quarterly* (32:2), pp. 281-306.
- Chang, Y. B., and Gurbaxani, V. 2012. "Information Technology Outsourcing, Knowledge Transfer, and Firm Productivity: An Empirical Analysis," *MIS Quarterly* (36:4), pp. 1043-1063.
- Chang, Y. B., Gurbaxani, V., and Ravindran, K. 2017. "Information Technology Outsourcing: Asset Transfer and the Role of Contract," *MIS Quarterly* (41:3), pp. 959-973.
- Chen, Y., Bharadwaj, A., and Goh, K.Y. 2017. "An Empirical Analysis of Intellectual Property Rights Sharing in Software Development Outsourcing," *MIS Quarterly* (41:4), pp. 131-161.
- Deng, X. N., Joshi, K. D., and Galliers, R. D. 2016. "The Duality of Empowerment and Marginalization in Microtask Crowdsourcing: Giving Voice to the Less Powerful through Value Sensitive Design," *MIS Quarterly* (40:2), pp. 279-302.
- Dibbern, J., Winkler, J., and Heinzl, A. 2008. "Explaining Variations in Client Extra Costs between Software Projects Offshored to India," *MIS Quarterly* (32:2), pp. 333-366.
- Gefen, D., and Carmel, E. 2008. "Is the World Really Flat? A Look at Offshoring at an Online Programming Marketplace," *MIS Quarterly* (32:2), pp. 367-384.
- Gefen, D., Wyss, S., and Lichtenstein, Y. 2008. "Business Familiarity as Risk Mitigation in Software Development Outsourcing Contracts," *MIS Quarterly* (32:3), pp. 531-551.
- Goo, J., Kishore, R., Rao, H. R., and Nam, K. 2009. "The Role of Service Level Agreements in Relational Management of Information Technology Outsourcing: An Empirical Study," *MIS Quarterly* (33:1), pp. 119-145.
- Gopal, A., and Koka, B. 2012. "The Assymmetric Benefits of Relational Flexibility: Evidence from Software Development Outsourcing," *MIS Quarterly* (36:2), pp. 553-576.
- Gregory, R. W., Beck, R., and Keil, M. 2013. "Control Balancing in Information Systems Development Offshoring Projects," *MIS Quarterly* (37:4), pp. 1211-1232.
- Hahn, E. D., Doh, J. P., and Bunyaratavej, K. 2009. "The Evolution of Risk in Information Systems Offshoring: The Impact of Home Country Risk, Firm Learning, and Competitive Dynamics," *MIS Quarterly* (33:3), pp. 597-616.
- Han, K., and Mithas, S. 2013. "Information Technology Outsourcing and Non-IT Operating Costs: An Empirical Investigation," *MIS Quarterly* (37:1), pp. 315-331.
- Holmstrom-Olsson, H., Conchuir, E. O., Ågerfalk, P. J., and Fitzgerald, B. 2008. "Two-Stage Offshoring: An Investigation of the Irish Bridge," *MIS Quarterly* (32:2), pp. 257-279.

- Kotlarsky, J., Scarbrough, H., and Oshri, I. 2014. "Coordinating Expertise across Knowledge Boundaries in Offshore-Outsourcing Projects: The Role of Codification," *MIS Quarterly* (38:2), pp. 607-627.
- Lacity, M. C., and Willcocks, L. P. 1998. "An Empirical Investigation of Information Technology Sourcing Practices: Lessons from Experience," *MIS Quarterly* (22:3), pp. 363-408.
- Leonardi, P. M., and Bailey, D. E. 2008. "Transformational Technologies and the Creation of New Work Practices: Making Implicit Knowledge Explicit in Task-Based Offshoring," *MIS Quarterly* (32:2), pp. 411-436.
- Levina, N., and Ross, J. W. 2003. "From the Vendor's Perspective: Exploring the Value Proposition in It Outsourcing," *MIS Quarterly* (27:3), pp. 331-364.
- Levina, N., and Vaast, E. 2008. "Innovating or Doing as Told? Status Differences and Overlapping Boundaries in Offshore Collaboration," *MIS Quarterly* (32:2), pp. 307-332.
- Mani, D., Barua, A., and Whinston, A. 2010. "An Empirical Analysis of the Information Capabilities Design on Business Process Outsourcing Performance," *MIS Quarterly* (34:1), pp. 39-62.
- Miranda, S. M., and Kim, Y.M. 2006. "Professional Versus Political Contexts: Institutional Mitigation and the Transaction Cost Heuristic in Information Systems Outsourcing," *MIS Quarterly* (30:3), pp. 725-753.
- Oshri, I., Henfridsson, O., and Kotlarsky, J. 2018. "Re-Representation as Work Design in Outsourcing: A Semiotic View," *MIS Quarterly* (42:1), pp. 1-23.
- Rai, A., Maruping, L. M., and Venkatesh, V. 2009. "Offshore Information Systems Project Success: The Role of Social Embeddedness and Cultural Characteristics," *MIS Quarterly* (33:3), pp. 617-641.
- Ramasubbu, N., Mithas, S., Krishnan, M. S., and Kemerer, C. F. 2008. "Work Dispersion, Process-Based Learning and Offshore Software Development Performance," *MIS Quarterly* (32:2), pp. 437-458.
- Söllner, M., Benbasat, I., Gefen, D., Leimeister, J. M., Pavlou, P. A. "Trust," in *MIS Quarterly Research Curations*, Ashley Bush and Arun Rai, Eds., <http://misq.org/research-curations>, October 31, 2016.
- Su, N. 2013. "Internationalization Strategies of Chinese IT Service Suppliers," *MIS Quarterly* (37:1), pp. 175-200.
- Su, N. 2015. "Cultural Sensemaking in Offshore Information Technology Service Suppliers: A Cultural Frame Perspective," *MIS Quarterly* (39:4), pp. 959-983 (Research Note).
- Susarla, A., Barua, A., and Whinston, A. B. 2003. "Understanding the Service Component of Application Service Provision: An Empirical Analysis of Satisfaction with ASP Services," *MIS Quarterly* (27:1), pp. 91-123.
- Vlaar, P. W. L., van Fenema, P. C., and Tiwari, V. 2008. "Cocreating Understanding and Value in Distributed Work: How Members of Onsite and Offshore Vendor Teams Give, Make, Demand, and Break Sense," *MIS Quarterly* (32:2), pp. 227-255.
- Walden, E. A. 2005. "Intellectual Property Rights and Cannibalization in Information Technology Outsourcing Contracts," *MIS Quarterly* (29:4), pp. 699-720.