

Current State of IS Offshoring Research: A Descriptive Meta-Analysis

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Abstract. This paper summarizes the results of a descriptive meta-analysis on existing academic research in IS offshoring from 1996 to 2006. It identifies relevant research, categorizes it, and suggests future research directions. The results show that IS offshoring represents a new research area with most research being published during 2003 to 2006. Non-theory based, descriptive research designs dominate. Most studies focus on the questions of “why” to offshore, “how” to offshore, and the “outcome” of IS offshoring. Other aspects such as “what” services to offshore or “which” decision to make are under-researched. Future research could focus on these areas. Additionally, more empirical-confirmatory research might enrich the IS offshoring body of knowledge by providing findings that are based on more diversified patterns of research designs.

Keywords: Offshoring, nearshoring, information systems, information technology, meta-analysis, research approaches.

1 Introduction

Current international and Germany-focused research in IS offshoring lacks a consolidated view on existing research results [33, 52]. The study at hand addresses this research deficit. It conducts a descriptive meta-analysis on existing academic research in IS offshoring from 1996 to 2006. Its main objectives are to identify relevant research contributions regarding IS offshoring, categorize their theoretical foundations and research designs, and show implications for future research. The meta-analysis applies an IS managerial and business-oriented point of view and excludes technology-related aspects of offshoring. Furthermore, it partially follows the methodological approach employed by [15] in their extensive literature review for IS outsourcing. Thus, it ensures research continuity by building upon an existing approach and it enables comparability of research findings between the two studies.

The paper understands IS offshoring as the partial or total transfer of IS services provision (i.e. infrastructure, application development or other IS services) to a

service providing organization residing in a near or far away country different to that of the service receiving organization. The service providing organization can be an internal subsidiary, a partially-owned unit or an external service provider. Fig. 1 illustrates the dimensions of IS offshoring. [9, 10, 20, 23, 25, 36, 38, 40, 41, 52]

Location	Services	Degree	Organization
- Near	- Infrastructure services	- Partial offshoring	- Internal
- Far	- Application development services	- Total offshoring	- Partial
	- Other IS services		- External

Fig. 1. Definitorial dimensions of IS offshoring.

Several studies perceive IS offshoring as a variation of international IS outsourcing and name it “IS offshore outsourcing”. This perception does not contradict but rather fits to the previously defined dimensions in Fig. 1. However, outsourcing usually requires a contracting arrangement with an external party [15]. By defining IS offshoring as a variation of IS outsourcing, definitions would limit themselves to “external” arrangements in the dimension “organization”.

In terms of this paper’s IS offshoring definition, we recognize “IS offshore outsourcing” not as a variation of IS offshoring but as a combination of both IS offshoring and IS outsourcing [16].

2 Methodology

2.1 Analysis Approach Overview

The analysis approach consists of four steps. The *first step* retrieves literature from electronic databases, examines, and archives all literature items. The *second step* excludes “non-relevant” research from further analysis. This exclusion is necessary, since the database-driven search approach might return irrelevant results. Having identified relevant literature items, the *third step* classifies and tabulates them. The *fourth and last step* interprets and discusses the research items’ findings.

2.2 Literature Retrieval

The meta-analysis focuses on journals and conferences to identify relevant knowledge in the field of IS offshoring.

We use electronic databases to find relevant journal articles. The employed database is ebsco’s “Business Source Complete”. It covers more than 1,200 scholarly business journals. Electronic database search comes with certain limitations, e.g.

regarding available journal issues in the database and record completeness. Nevertheless, we opt for a database-driven search because it allows a wide coverage of literature sources and assures repeatability of the search process by other researchers.

The paper focuses on four renowned IS conferences: Americas Conference on Information Systems (AMCIS), European Conference on Information Systems (ECIS), Hawaii Conference on System Sciences (HICSS), and International Conference on Information Systems (ICIS).

The last ten years from 1st January 1996 to 31st December 2006 serve as the relevant timeframe for searching literature items from journals and conferences.¹ Article titles, abstracts, subject terms, and assigned keywords represent the relevant search fields for journal articles. For conference papers, their paper titles are searched.

The corresponding query string is “offshor* OR off-shor* OR nearshor* OR nearshor* OR (global AND outsourc*) OR (international* AND outsourc*)”. The wildcard symbol “*” reduces the terms to their principal forms (so-called “stemming”, [19]). It ensures that the search also covers term variations such as “offshoring”, “offshore”, and “offshored”. The search term “global AND outsourc*” and “international* AND outsourc*” identifies literature items that address the aspect of offshore outsourcing but do not explicitly use the keyword “offshoring” (e.g. [1]).

The keywords above yield more than 900 search results with low relevancy, e.g. related to manufacturing offshoring or the oil drilling industry. Therefore, we use a database subject filter to focus on content-wise relevant research. The subject filter is “‘Information Technology’ OR ‘Strategic Information System’ OR ‘Management Information Systems’” for journal articles. The search furthermore excludes journal articles with a length of less than five pages. Additionally, the database filter “Scholarly (peer-reviewed) journals” ensures a minimum quality in research results.

2.3 Literature Item Exclusion

We exclude non-relevant research to assure that the meta-analysis only contains content-wise relevant literature. Research is “non-relevant” when it has a non-IS context or does not have an IS managerial or business-oriented research focus such as studies on manufacturing offshoring or on IS education. Additionally, the analysis excludes conference papers that resulted in a journal article and conference papers with no original content such as announcements for discussion boards or research agendas/proposals.

2.4 Literature Categorization Framework

As Fig. 2 shows, relevant dimensions for categorizing the identified research items are the *reference theories* the items build upon, their *research approaches*, their *research types*, their employed *research methods* in terms of data gathering and data

¹ Except for ECIS where proceedings of the 2006 conference were not yet available.

analysis, the specific *IS offshoring stage(s)* they address, and the *IS services* they focus on. [7, 15, 49]

Reference theory	Research approach	Research type	Research method	IS offshoring stage	IS service
- Strategic theories	- Empirical	- Confirmatory	- Data gathering	- Why	- Infrastructure
- Resource theories	- Non-empirical	- Exploratory-interpretive	- Survey	- What	- Application development
- Strategic management theories		- Descriptive	- Interview	- Which	- Other
		- Formulative	- Case study	- How	
			- Other	- Outcome	
- Economic theories			- Data analysis		
- Agency theory			- 1st generation statistics		
- Transaction cost theory			- 2nd generation statistics		
- Social/Organizational theories			- Interpretation		
- Social exchange theory			- Other		
- Power and politics theory					
- Relationship theory					
- Other					

Fig. 2. Dimensions of literature categorization framework.

Content-wise, the five sub-stages of the dimension *IS offshoring stages* are derived from [15] using their adapted version of Simon’s decision making model [46]. They are defined as follows:

“*Why*” to consider offshoring examines the determinants that lead to the consideration of offshoring as a sourcing option. Research at this stage tries to understand potential advantages and disadvantage or risks and benefits associated with IS offshoring.

“*What*” to offshore looks at the aspects of the areas and functions, e.g. IS department activities or applications, that are offshoreable but also addresses the structure of the offshoring arrangement, e.g. regarding the degree of offshoring in terms of IS budget.

“*Which*” choice to make refers to the decision whether to offshore or not. It examines the procedures, guidelines and stakeholders involved to evaluate the available options and make the decision.

“*How*” to offshore looks at the implementation of the offshoring decision, e.g. on setting up an offshore unit or selecting an offshore service provider, structuring the arrangement and managing it. Research at this stage solely focuses on the structure or conceptualization of the implementation but *not* on the outcome or its quality.

“*Outcome*” of offshoring addresses the result of the implementation of offshoring relating to experiences such as best practices, types of success, and the various determinants for success of the offshoring decision.

2.5 Research Validity

We compared *database* search results of “Business Source Complete” to those of “Academic Search Premier”, “Computer Source”, and the “ProQuest” database. The results suggested that “Business Source Complete” does not ignore relevant articles. We compared the amount and content-wise relevancy of results when using different search fields. A search in titles, abstracts, keywords, and subject terms but not in the articles’ full texts yielded the most useful results.

3 Descriptive Analysis

3.1 Selection of Relevant Literature

The databases were searched in March 2007. The search resulted in a total of 66 journal articles with more than four pages published between 1st January 1996 and 31st December 2006. Additionally, the search identified 38 conference contributions. This resulted in a total of 104 literature items in-scope for the literature review.

We examined these items, archived them, and analyzed their relevancy regarding IS offshoring research. 45 journal articles and 23 conference contributions are considered “non-relevant”. As a result, 21 journal articles and 15 conference papers remain, thus totaling relevant 36 literature items. Fig. 3 illustrates the selection of relevant literature.

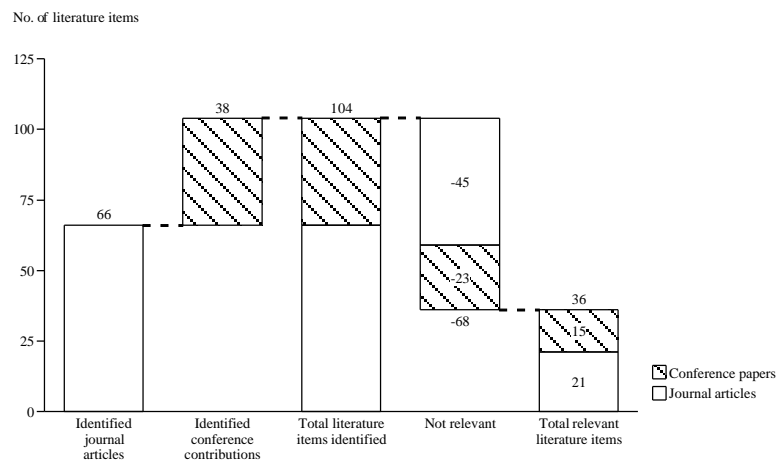


Fig. 3. Selection of relevant literature items.

3.2 Publication Period

Fig. 4 shows the publication years of the relevant literature items. Most research was published in the four years from 2003 to 2006 with the majority of 18 items in 2006. It seems that research in IS offshoring barely existed before 2003 and increased from that time on. This marks a difference to the research situation in IS outsourcing where a significant amount of publications exists starting from as early as 1992 [4, 15].

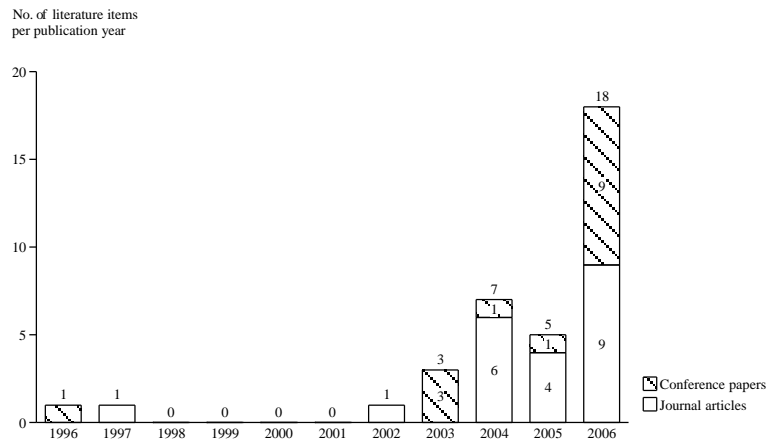


Fig. 4. Publication years of identified relevant literature items.

3.3 Research Design

Most of the literature items do not draw on theoretical foundations to conduct their research (23 items). If they apply a theoretical foundation, transaction cost economics dominates (5 items), followed by resource theories (2 items). More empirical (20 items) than non-empirical (16 items) research exists. Descriptive research dominates the literature (19 items), specifying either no data gathering methods at all (16 items) or applying case study approaches (11 items). Correspondingly, studies use either no data analysis methods (16 items) or apply interpretation (15 items). Fig. 5 shows the categorization of all literature items regarding research design.

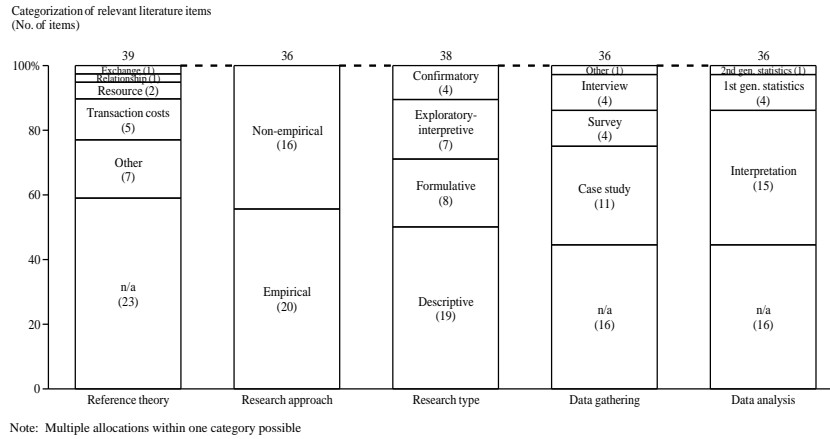


Fig. 5. Categorization of identified literature items regarding their research designs.

3.4 Research Objectives

As Fig. 6 shows, most literature items address the “why” (17 items), “outcome” (14 items), and “how” (12 items) stages of IS offshoring. The “what” stage is less frequently researched (7 items). No literature item examines the “which” stage, thus leaving this stage un-researched in terms of the literature review. Most items do not explicitly state which offshored IS services are in focus of their research (19 items). However, if they specify a specific service, application development dominates (17 items).

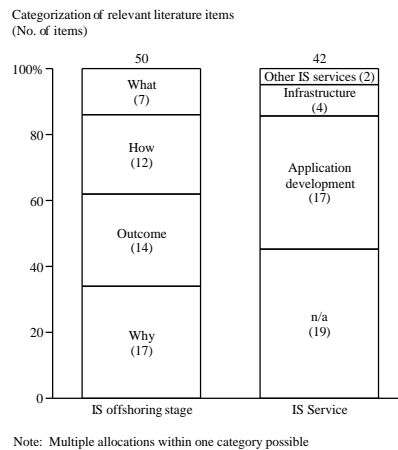


Fig. 6. Categorization of literature items regarding their research objectives.

4 Discussion

4.1 Research Patterns

Certain research design patterns dominate current IS offshoring research: most studies do not draw upon any reference theory and use a descriptive research type. They are purely conceptual or use case studies as data gathering approaches, and apply no data analysis methods or – if any – interpretation.

This situation exhibits some drawbacks. First of all, the domination of one research design pattern provides a one-sided research view on the IS offshoring phenomenon. Furthermore, if research is empirical, sample sizes are often low. If research is non-empirical, findings are often conceptual and not theory-backed. This undermines the generalizability of results and limits the comparability between different studies.

A potential explanation for this observation is that the IS offshoring phenomenon itself is a rather new area of knowledge and consequently less researched. The fact that most research was published between 2003 and 2006 supports this perception. Therefore, the research community might currently be at the stage of establishing an initial understanding of the phenomenon, its constituting variables, and underlying theories. Such a research situation would explain the dominance of non-theory guided, descriptive and conceptual [12]. Noticeably, this research situation marks a contrast to research in IS outsourcing where a significant body of knowledge already exists and research tends to be more theory-driven and confirmatory [4, 15].

4.2 Research Opportunities

A greater variety in research designs could enrich the body of knowledge in IS offshoring research. Especially, more confirmatory-empirical research using theory-derived hypotheses and research frameworks is missing. Such empirical research would add most value if it built upon greater sample sizes and used statistical methods beyond descriptive 1st generation statistics.

Regarding research objectives, more studies addressing the stages “what” and “which” would deepen the understanding for the IS offshoring phenomenon. Additionally, consideration of intercultural aspects and theories and their relevancy to IS offshoring could create further insights.

4.3 Limitations

Limitations of this study clearly come from its database-driven search approach. Despite thorough validity checks, it is possible that the search approach missed relevant research. Better results might arise from searching more databases and conferences. Therefore, repeating the literature review at a later date and comparing the results might provide additional insights.

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