



**WHY RISK MANAGEMENT MATTERS IN IT OUTSOURCING – A  
SYSTEMATIC LITERATURE REVIEW AND ELEMENTS OF A  
RESEARCH AGENDA**

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# WHY RISK MANAGEMENT MATTERS IN IT OUTSOURCING – A SYSTEMATIC LITERATURE REVIEW AND ELEMENTS OF A RESEARCH AGENDA

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## Abstract

*In this paper, we present a systematic literature review in the field of IT Outsourcing with a focus on risk management. The source material of the review consists of 97 high quality journal articles published in 18 journals between 2001 and September 2008. Besides an analysis of related work, this review provides an overview of applied research methods and theories in the field of IT Outsourcing. The articles are then analyzed from a risk management point of view to highlight key risk factors and their specific impact on IT Outsourcing. Identified risk factors are further analyzed in order to assign each risk factor to the phases of a typical IT Outsourcing process (life-cycle). The results of the review show that empirical research is the most applied method and that action research and reference modelling have not been used at all so far. Furthermore, elements of a research agenda are discussed in order to determine further steps to the construction of a reference model for risk management in IT Outsourcing. This paper mainly aims at an audience of experienced researchers in the field of IT Outsourcing who are looking for research ideas and at junior scientists (e.g. PhD students) entering this emerging field of research.*

*Keywords: IT Outsourcing, Risk Management, Systematic Literature Review, Research Agenda.*

## 1 INTRODUCTION

IT Outsourcing has been one of the most discussed phenomena of the recent years (King & Torkzadeh 2008, p. 205). Considering the high growth rates that are being projected for this industry, the relevance of IT Outsourcing is strongly increasing. A cross-European study conducted by Ernst & Young in 2008 demonstrates the general significance of IT Outsourcing. According to this survey, 68% of all European companies have outsourced their IT at least partially. Seeing that, each company should implement a risk management system for IT Outsourcing to reach the business objectives. This can only be achieved by considering main risks and required safeguards (Bahli & Rivard 2003). A generally growing interest in this topic is also mirrored by its presence in major scientific research journals. For example, MIS Quarterly released a special issue dedicated to the topic of offshore outsourcing in June 2008. The field of risk management has been investigated by scientists from 1988 to 2000 (cf. Dibbern et al. 2004, pp. 34-38, 54). Dibbern et al. identified articles with a focus on topics of risk management in IT Outsourcing, ranging from 1994 to 1999. In our review we continue this work and analyze articles ranging from 2001 to 2008. The objective of this article is to provide an overview of the current research status on risk management in IT Outsourcing as it presents itself in international high quality journals. By means of a systematic literature review, an analysis of past, present and future research on IT Outsourcing and risk management in IT Outsourcing is presented.

Generally, the term ‘outsourcing’ applies to the transfer of business units/ functions to external service providers (Dibbern et al. 2004, pp. 9-10, Lee et al. 2000). In IT Outsourcing, this transfer process is limited to the realm of IT, where it can encompass a wide range of measures – from hiring an external software developer to delegating the management of a company’s complete data processing center to external service providers. The reasons for IT Outsourcing can be put down to a general shift in business strategies. The former diversification strategy aiming at risk distribution that used to be predominant until quite recently has now been replaced by a focus on the company’s core competencies. IT is usually not regarded as a core competency and is therefore frequently outsourced by companies. In the course of the IT Outsourcing transaction, economies of scale and external expert knowledge contribute to a more efficient realization and administration of IT. A second reason for IT Outsourcing lies in the current discussion about the incalculable value contribution of IT (Levina & Ross 2003, p. 332). Executive managers often regard the costs of IT as overhead costs which should be reduced to a minimum. In summary, IT Outsourcing can be regarded as a make-or-buy-decision in the context of IT management.

The paper is structured as follows: section 2 starts with a discussion of the applied research method (systematic literature review), the underlying review process and related work. The results of the systematic literature review are presented in section 3, which starts by presenting different classifications (e.g. research methods applied, theories applied and research topics) of the analyzed articles and ends with a systematic analysis of risk factors. Section 4 takes a critical look at the overall results and provides a summary of findings and recommendations for further research activities in the field of risk management in IT Outsourcing. An outlook on future research trends is also given.

## 2 RESEARCH METHODOLOGY AND FRAMEWORK OF ANALYSIS

### 2.1 Systematic Literature Review and Analyzed Journals

Considering the increasing number of books, journals, conferences and workshops, the application of a systematic literature review has become indispensable (Fettke 2006, p. 257). In a systematic literature review, relevant work and current findings are analysed with regard to a particular research question. The objective is to describe, summarize, assess, appraise, resolve or to integrate selected primary research results. The focus of the analysis can be set on methodology, theory, content or other aspects. Webster and Watson (2002) show a more content-oriented approach to writing a review article. In

their opinion, the main motivation for a research article should always lie in the additional benefit it has for the research community. Every figure and evaluation should increase the research community's knowledge. The thematic scope of the article should also be clearly defined. In addition, a methodology or model should be developed that further research could be based on. Finally, a review should imply conclusions relevant for other researchers and managers alike. To improve the quality of the analyses, both authors of this paper were involved in reviewing and coding the analyzed articles. The inter-rater reliability was good (inter-rater percentage agreement: > 90 % in all analyses). The limitations of a systematic literature review lie in the paper selection and categorization process, which requires some judgment calls. However, we tried to minimize this risk by following a proven course of action for the creation of a literature review (Swanson & Ramiller 1993). The restriction of the source material to high quality articles leads to reliable results about the state of the art of IT Outsourcing.

The analyzed journals and the number of published articles regarding IT Outsourcing are shown in Figure 1. The selection of journals is relied on the journal ranking list published by WKWI (2008). This list has a wide acceptance among researchers. It declares 23 information systems journals as high quality journals. Figure 1 shows that the journals "Communications of the ACM", "Information & Management" and "MIS Quarterly" make up a large part with 14, 10 and 14 published articles on IT Outsourcing. The analyzed time period spans 8 years, from 2001 to September 2008, because a review article by Dibbern et al. 2004 analyzed articles dating from 1988 to the year 2000. Amongst others, they analyzed papers on risk management in IT Outsourcing (Dibbern et al. 2004, pp. 34-38, 54). The work of Gonzales et al. 2005 spans a time period from 1988 to 2005 but does not analyze the topic of risk management in detail. The search for relevant articles was conducted as follows: As a first step, a matching list of pre-defined key words was applied to the search engine of each journal or to publisher independent journal data bases like EBSCO (Business Source Complete, EconLit (full text)) or Science Direct.

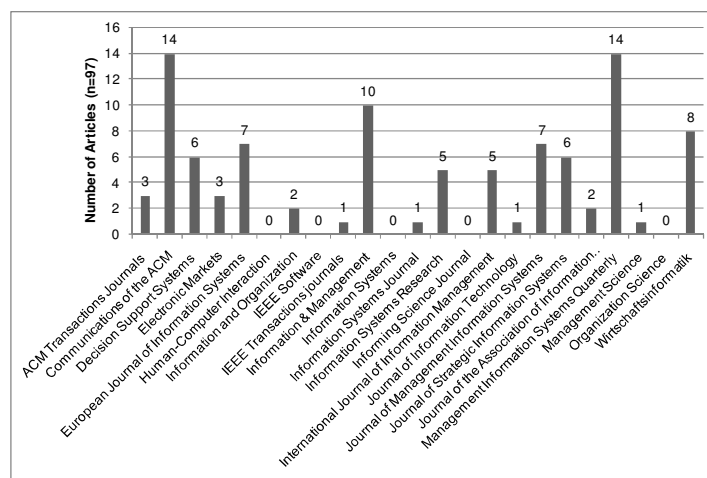


Figure 1. Total number of articles per journal.

To achieve extensive search results the following key words were used: Cloud Computing, Offshoring, Nearshoring, Outsourcing, IT Outsourcing, Sourcing, Application Outsourcing, Contracting Out, On-demand Computing, Application Service Provider, Software as a Service, Software on demand, Netsourcing, Internet as a platform, Utility Computing, Service Industry, Service Engineering, Service Outsourcing, IT Service Provider, Business Service Provider, Commerce Service Provider, Storage Service Provider, Vertical Service Provider, Full Service Provider and Managed Service Provider. The inclusion of many synonyms and/or semantically very similar expressions led to more exhaustive search results. The overall results were first saved in a list. In a second step, each article was checked for its relevance to the topic of IT Outsourcing by reading the respective abstract. The selected 97 articles were then analyzed by using the method of a systematic literature review.

Following Swanson & Ramiller 1993 we studied each paper's abstract, introduction, discussion section and conclusion to classify the paper according to its research method, theoretical lense and research topic.

## 2.2 Related Work

In order to determine the research status it is necessary to evaluate former literature reviews about IT Outsourcing. In total, the authors found 5 different review articles dealing with IT Outsourcing (cf. Table 1).

Title, Journal, Year, Authors	Information Technology Outsourcing in Australia – a literature review, Information Management & Computer Security, 2001, Christina Costa (Costa 2001)
Period, Publications reviewed	Period not explicitly named; Articles, books, surveys
Research objective(s)	analysis of economic and technical considerations regarding IT Outsourcing: e.g. success factors of IT Outsourcing arrangements
Review method	not explicitly described
Results	an overview of: cost reduction, technical considerations and relevance of core activities
Title, Journal, Year, Authors	Information Systems Outsourcing: A Survey and Analysis of the Literature, The DATA BASE for Advances in Information Systems, 2004, J. Dibbern, T. Goles, R. Hirschheim, B. Jayatilaka (Dibbern et al. 2004)
Period, Publications reviewed	1988-2000, 84 articles (selected IS Journals [9], IS conferences [2], Management [7] and Applied Management Journals [3])
Research objective(s)	framework for cataloging literature about IT Outsourcing: research foci, theoretical perspective, definition of the methodologies utilized to conduct the analysis, areas of consensus and suggestions for future research
Review method	search of journals by using "outsourc\$" as search phrase; reading of abstract, introduction, discussion section and conclusion of articles to determine their research focus, theoretical foundation and methodology
Results	IT Outsourcing research is dynamic and vibrant: growing research synergy, healthy exchange between researchers; early research analyses: why, what function and how to outsource IT systems or services; recent research analyses: relationships and psychological aspects
Title, Journal, Year, Authors	Information systems outsourcing: A literature analysis, Information & Management, 2006, Reyes Gonzalez, Jose Gascoa, Juan Llopisa (Gonzalez, Gascoa & Llopisa 2006)
Period, Publications reviewed	1988-2005, 131 articles ("prestigious" journals [10] as well as management and business journals [8])
Research objective(s)	identification of main topics, most frequently applied methodologies, survey of authors and countries contributing to IT Outsourcing, suggestions to improve research on IT Outsourcing
Review method	search for several terms in the ABI database; and manual search in indices of the journals
Results	progressive growth of the topic, empirical research is often conducted (especially field studies), examples of new topics: computer staff and job threat
Title, Journal, Year, Authors	Why 'Nearshore' means that Distance matters, Communications of the ACM, 2007, Erran Carmel, Pamela Abbott (Carmel & Abbott 2007)
Period, Publications reviewed	1998-2006, 150 textual sources: journal/magazine (45%), promotional (23%), web-based texts (22%), consulting articles (7%), and academic texts (3%)
Research objective(s)	categorization of publications into nearshoring location, dimensions of the nearshoring construct and evidence for the assertion of difference between near- and offshore
Review method	critical, systematic, and qualitative content analytical method; inductively derived coding categories which can be used as a basis for the analysis and can then be applied deductively to the textual sources
Results	"nearshore" has become a convenient label; locational and geographical differences will continue to play a role; distance is viewed as multi-dimensional (e.g. physical meters and time zones)
Title, Journal, Year, Authors	Information Systems Offshoring: Research Status and Issues, MIS Quarterly, 2008, William R. King, Gholamreza Torkzadeh (King & Torkzadeh 2008)
Period, Publications reviewed	June 2008, 43 articles submitted to MISQ for a special issue on IS Offshore Outsourcing (solely empirical research)
Research objective(s)	presentation of a representative extract from research that is being conducted on the topic of IS offshore outsourcing
Review method	extraction of research question(s), definition of offshoring (if given), context of the study, theoretical perspective(s), vendor countries, sample frame, general research method, analysis method, findings
Results	research regarding offshoring is still in nascent phase; research is still mainly qualitative and/or exploratory

Table 1: Related Work.

Table 1 categorizes all reviews in chronological order and summarizes their research objectives, review methods and results. The specific difference of our article from the 5 identified review articles (cf. table1) is:

- Only papers in high quality journals are analyzed. Specific analyses of the current research status and the articles' theoretical perspective are conducted.
- Time horizon from 2001 to September 2008, succeeding Dibbern et al. (2004)
- In particular, risk management articles on IT Outsourcing are categorized and in-depth analyzed.

### 3 ANALYSIS OF RESULTS

#### 3.1 Distribution of Articles over time

Figure 2 illustrates the development of practical, empirical and other (i.e. non-empirical and non-practical) articles over the last eight years. An article was counted as practitioner article if at least one of the contributing authors had a distinctly practical orientation that was outlined in the author information. In the years 2003 and 2008 an especially high number of articles on IT Outsourcing was published. Generally, the number of articles has grown during the time period discussed, reaching its peak in 2008. The number of published scientific articles follows the same pattern. The number of articles with empirical approaches, which amount to 31% of all papers published in the covered time span of 8 years, also shows an upward trend. However, the application frequency of the empirical research method has declined from 50% in the year 2001, to 20% in 2004 and 26% in 2008. The application of empirical methods can generally be regarded as a sign of scientific progress, because this research approach validates previously developed models, methods and concepts, sharpens the research area and contributes to its long-term establishment (Webster & Watson 2002, p. xiii). Finally, the fact that IT Outsourcing is a concept developed in practice (Dibbern et al. 2004, p. 9) explains the existence of a (small) number of practitioners who contribute occasionally to scientific research articles.

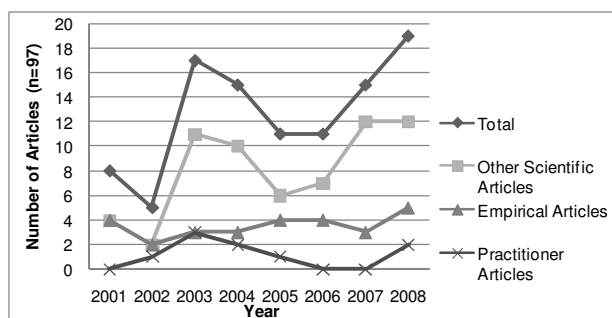


Figure 2. Total Number of Articles per Year during the Period from 2001 to September 2008.

#### 3.2 Research Methods

The research methods that are commonly applied in IT Outsourcing are listed in Figure 3. Due to the distribution of articles to more than one research method the overall number is higher than 97. This also applies generally to the following analyses. A spectrum of IS research methods that we have applied is shown in Wilde and Hess 2007. The analysis shows that empirical research methods dominate the area of IT Outsourcing. The high number of conducted case studies underlines the strong practical component of IT Outsourcing. Formal models as well as trend and development analyses were included in the category of formal argumentative-deductive research. The authors realized that in most cases the hypotheses of empirical analyses were not based on pre-developed models, concepts or methods, but rather on general aspects of IT Outsourcing to keep track of changing demands.

Furthermore, one should note that in spite of numerous new models being developed, their practical implementation by means of empirical methods or case studies (including an iterative improvement process) is mostly either incomplete or does not happen at all. The three review articles identified in our systematic literature review are complemented by two more articles in Table 1. These were identified by means of an unsystematic review of literature conducted with search engines like EBSCO, Science Direct, etc. Furthermore, compared to explorative research, other methods are clearly underrepresented in this research area. But also previously unused research methods like action research or reference modeling should be applied in order to gain new insights. Action research aims to solve current practical problems while expanding scientific knowledge by using an iterative research process that both researchers and research subjects benefit from (Baskerville & Myers 2004). A generic reference model represents a class of domains; e.g. the development or improvement of processes, systems and organizational demands in certain fields (Fettke & Loos 2003). For the reference modeling approach BITKOM recommended the development of a reference model that supports the realization and implementation of IT Outsourcing.

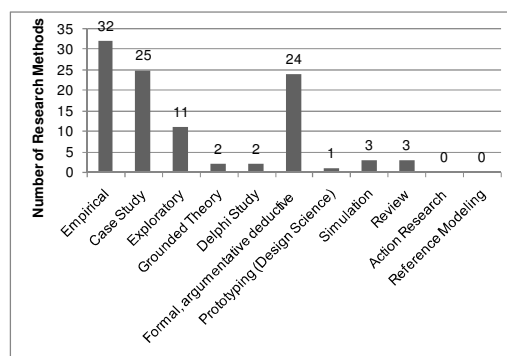


Figure 3. Research Methods Applied in IT Outsourcing.

### 3.3 Theories Applied

Figure 4 illustrates the different theories applied in the 97 analyzed articles. The data shows that IT Outsourcing researchers strongly tend to base their approach on the transaction costs and agency theory. Other theories like incomplete contract theory or psychological contract theory are not very frequently utilized. The transaction cost theory is applicable because it deals with asset specificity, overall cost advantage, the threat of opportunistic vendor behaviour, and the complexity of the transaction (Bahli & Rivard 2003).

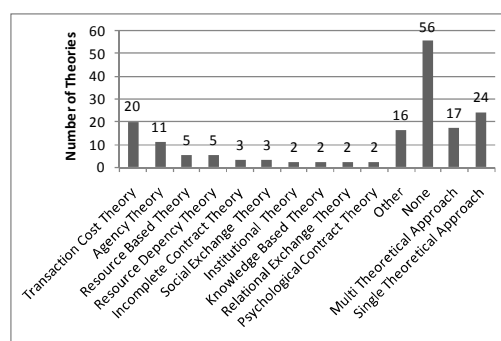


Figure 4. Theories applied in IT Outsourcing research.

Agency theory deals with principal-agent conflicts, information asymmetry and goal incongruence between an agent (the external vendor) and a principal (the client). Obviously, researchers in this area are still mainly relying on theories which have already been applied before, but they have also started to test other theories for their applicability to IT Outsourcing. This shows that the research area of IT

Outsourcing is vivid, because both established and new theories play a role in it. As a result of a future literature review, a list of new theories to be established would be desirable. Furthermore, the application of multi-theoretical approaches could be especially identified.

### 3.4 Risk Management in IT Outsourcing

Main phases of risk management are context analysis (1), risk identification (2), risk analysis (3), risk evaluation (4), risk treatment (5), monitoring and review (6) and communication and continuous improvement of risk strategy (7). Since at least two companies are involved in an IT Outsourcing process, the range of risk factors expands and new risks could appear which are yet unknown to client companies. Furthermore, due to an increase in national and international regulations and quasi-standards (e.g. SOX, EuroSOX, Basel I, ITIL, Cobit, etc.) the risks that companies are facing grow and risk management for IT Outsourcing is explicitly demanded by suppliers, clients and states. To identify the topics of the articles we first chose an inductive approach and generated a topic list by reading each article. In a second step we aligned our list with the categorization by Gonzales et al. 2006. Figure 5 presents the results and illustrates the topics that IT Outsourcing articles are dealing with. It shows that risk management presently takes a relatively weak position. Apart from the chosen topic of risk management other articles address domains like quality issues or the project management of IT Outsourcing, but these issues are secondary if the IT Outsourcing arrangement is not successful because main risks and required safeguards are disregarded (Bahli & Rivard 2003). In total, 11 articles which deal with risk management in IT Outsourcing have been identified and examined in detail.

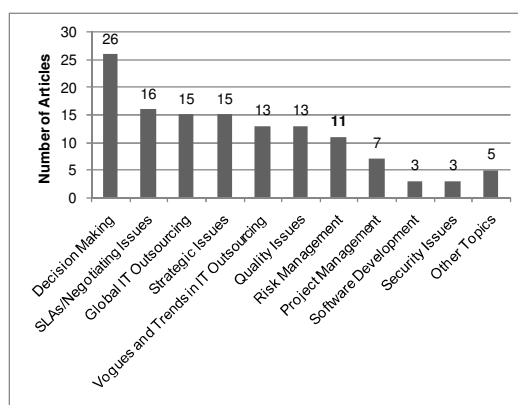


Figure 5. Distribution of Articles by Topics.

Figure 6 illustrates the distribution of research methods applied in the articles. Besides empirical research, formal, argumentative deductive analysis is often used to validate theoretical concepts and to formulate formal models for risk management functions.

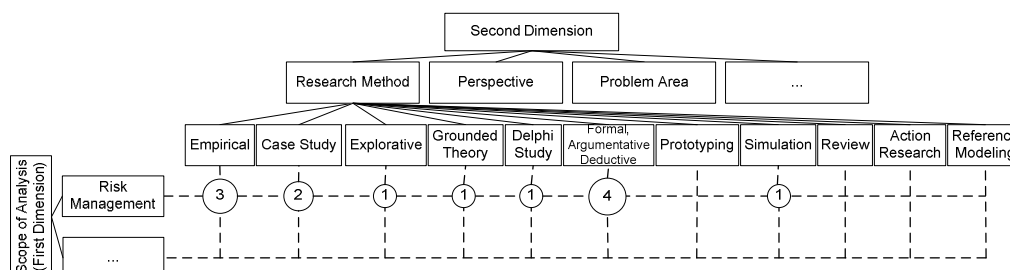


Figure 6. Scope of Analysis for Risk Management in IT Outsourcing.

For prototyping and reviewing, Figure 6 indicates a research gap. The method of prototyping could be applied in the development and implementation of software for IT Outsourcing decisions and for facilitating IT Outsourcing (e.g. Service-oriented Architectures).



	Risk Factor	References
Economical	1.1 <i>Quality Inferior to Anticipation (8)</i> : customer is not able to evaluate the quality of IT Outsourcing services adequately (theory of adverse selection)	(Saeed & Leitch 2003, Gefen, Wyss & Lichtenstein 2008, Sakhivel 2007, Aubert, Patry & Rivard 2006, Gellings & Wüllenweber 2006, Bahli & Rivard 2003, Taylor 2006, Kern, Kreijger & Willcocks 2002)
	1.2 <i>Hidden Costs (7)</i> : costs which are not mentioned in contract; ICT (Information and Communication Technology) costs of securing efficient communication; transition/switching costs, post-outsourcing costs	(Iacovou & Nakatsu 2008, Khalfan 2004, Sakhivel 2007, Aubert, Patry & Rivard 2006, Gonzales, Gasco & Llopis 2004, Gellings & Wüllenweber 2006, Kern, Kreijger & Willcocks 2002)
	1.3 <i>None/Poor Performance Measurement (6)</i> : lack of mutual monitoring and controlling of provider and customer	(Bahli & Rivard 2003, Oh, Gallivan & Kim 2006, Adeleye, Annansingh & Nunes 2004, Gellings & Wüllenweber 2006, Tafti 2005, Ngwenyama & Sullivan 2006)
	1.4 <i>Poor Cost Management (5)</i> : miscalculation and budget overrun because of poor cost management, unclear cost-benefit relationship	(Bahli & Rivard 2003, Adeleye, Annansingh & Nunes 2004, Aubert, Patry & Rivard 2006, Gonzales, Gasco & Llopis 2004, Taylor 2006)
	1.5 <i>Loss of skilled IT employees (4)</i> : loss of skilled IT staff and negative effects on employee morale;	(Iacovou & Nakatsu 2008, Khalfan 2004, Tafti 2005, Jayatilaka, Schwarz & Hirschheim 2003)
	1.6 <i>High Moral Hazard (4)</i> : a company acts in an irrational way, since it does not bear the consequences of actions	(Saeed & Leitch 2003, Gefen, Wyss & Lichtenstein 2008, Ngwenyama & Sullivan 2006, Bahli & Rivard 2003)
	1.7 <i>High Asset Specificity (3)</i> : overspending due to high transaction costs and a small number of providers on market	(Bahli & Rivard 2003, Oh, Gallivan & Kim 2006, Gellings & Wüllenweber 2006)
	1.8 <i>Low Financial Stability (3)</i> : the provider's financial stability is important	(Günther et al. 2001, Aubert, Patry & Rivard 2006, Ngwenyama & Sullivan 2006)
Organisational	2.1 <i>Lack of Provider Expertise (9)</i> : provider's experience with/knowledge of IT operations and IT Outsourcing projects	(Bahli & Rivard 2003, Oh, Gallivan & Kim 2006, Iacovou & Nakatsu 2008, Adeleye, Annansingh & Nunes 2004, Aubert, Patry & Rivard 2006, Gonzales, Gasco & Llopis 2004, Ngwenyama & Sullivan 2006, Taylor 2006, Kern, Kreijger & Willcocks 2002)
	2.2 <i>Loss of Competence (5)</i> : if outsourced IT services are close to core competences, future actions could be threatened	(Aubert, Patry & Rivard 2006, Gonzales, Gasco & Llopis 2004, Tafti 2005, Ngwenyama & Sullivan 2006, Günther et al. 2001)
	2.3 <i>Low Customer Capability (4)</i> : customer experience with IT operations/IT Outsourcing	(Bahli & Rivard 2003, Iacovou & Nakatsu 2008, Khalfan 2004, Ngwenyama & Sullivan 2006)
	2.4 <i>Poor Project Management (4)</i> : insufficient planning and management of IT Outsourcing projects	(Iacovou & Nakatsu 2008, Adeleye, Annansingh & Nunes 2004, Khalfan 2004, Sakhivel 2007)
	2.5 <i>High Performance Oscillation (3)</i> : provided performance after contract conclusion has high oscillations	(Iacovou & Nakatsu 2008, Saeed & Leitch 2003, Tafti 2005)
	2.6 <i>Excessive Dependence on Provider (2)</i> : customer has a limited scope of action	(Gonzales, Gasco & Llopis 2004, Kern, Kreijger & Willcocks 2002)
	2.7 <i>High Task Complexity (1)</i> : the service or task complexity influences the achievement of objectives.	(Aubert, Patry & Rivard 2006)
Legal	3.1 <i>Lack of Provider Expertise with Law (4)</i> : gained provider experience regarding IT Outsourcing contracts: pricing clauses, liability clauses, renegotiation clauses	(Bahli & Rivard 2003, Iacovou & Nakatsu 2008, Aubert, Patry & Rivard 2006, Tafti 2005)
	3.2 <i>Legality of Contract (4)</i> : scope/size/compliance/penalties of IT Outsourcing contract; poor contract management	(Oh, Gallivan & Kim 2006, Saeed & Leitch 2003, Gonzales, Gasco & Llopis 2004, Tafti 2005)
	3.3 <i>Lack of Customer Expertise with Law (2)</i> : gained customer experience regarding IT Outsourcing contracts	(Bahli & Rivard 2003, Tafti 2005)
	3.4 <i>Irreversibility of outsourcing decision (1)</i> : back-sourcing is usually not economical	(Gonzales, Gasco & Llopis 2004)
Technical	4.1 <i>Lack of Privacy/Data Security (9)</i> : confidential data, intellectual property	(Iacovou & Nakatsu 2008, Adeleye, Annansingh & Nunes 2004, Saeed & Leitch 2003, Khalfan 2004, Gonzales, Gasco & Llopis 2004, Tafti 2005, Kern, Kreijger & Willcocks 2002, Jayatilaka, Schwarz & Hirschheim 2003, Günther et al. 2001)
	4.2 <i>Lack of Flexibility (4)</i> : inability to adapt new technologies	(Gonzales, Gasco & Llopis 2004, Tafti 2005, Ngwenyama & Sullivan 2006, Günther et al. 2001)
Psychol.	5.1 <i>Cultural Disparity (3)</i> : cultural barriers between customer and provider	(Oh, Gallivan & Kim 2006, Iacovou & Nakatsu 2008, Aubert, Patry & Rivard 2006)
	5.2 <i>Poor User Integration (2)</i> : IT users have insufficient influence on the IT Outsourcing project/services	(Gonzales, Gasco & Llopis 2004, Tafti 2005)

Table 3: Risk Factors in IT Outsourcing.

The risk factors listed in Table 3 were extracted from the analyzed 97 articles and were assigned to one of the five categories (economical, organizational, legal, technical or psychological). The three most frequently mentioned and therefore most discussed risk factors are Quality Inferior to

Anticipation and Lack of Privacy/Data Security. A total of 23 different risk factors have been identified.

The risk factors listed in table 3 have specific effects and macro effects on the IT Outsourcing process. Figure 7 illustrates this causal relationship. The effects range from budget overrun (wrong cost expectations) to bad financial/economic performance. Every mentioned risk factor can trigger any of the possible effects, which in return may lead to macro effects. Macro effects are classified as one of four IT Outsourcing failure levels: IT Outsourcing process failure (the process/project is not completed within the time and budget); expectation failure (IT services and new processes do not match user and company expectations); interaction failure (users' attitudes towards outsourced IT services are negative); and correspondence failure (there is a discrepancy between IT Outsourcing process, performed service and the planned objectives).

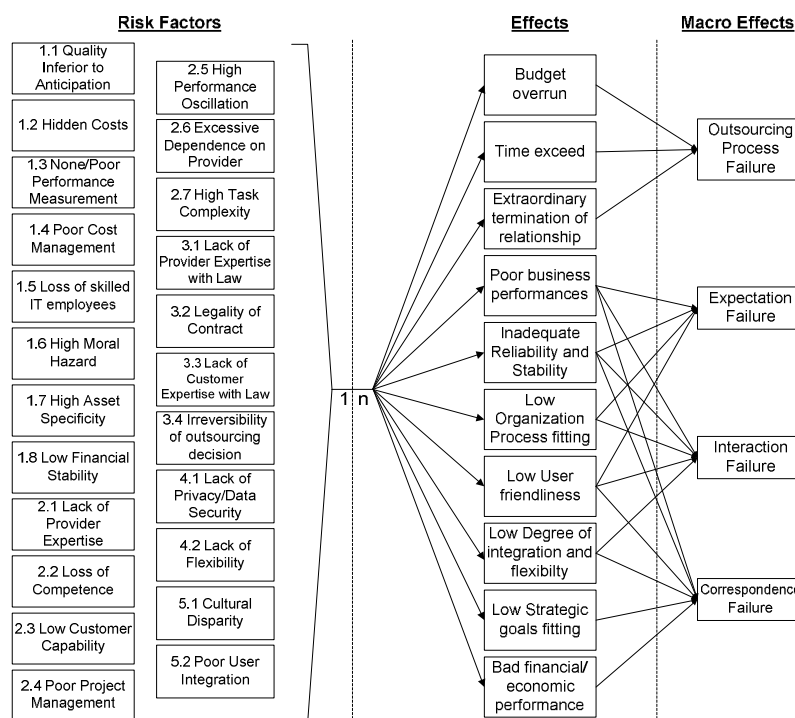


Figure 7. Risk Factors, Effects and Macro Effects (cf. Aloini et al. 2007, p. 553).

Figure 8 exemplifies a typical IT Outsourcing process (Georgius & Heinzl 2005) with risk factors assigned to the individual process steps. The process is initiated by the customer and ends with the expiration or renegotiation of the contract. The risk factors are taken from table 3. The Information Security Forum reported in 2008 that many companies only accounted for their potential IT risks after the outsourcing process had been completed. This makes it all the more necessary to develop, implement and establish risk methods and concepts for IT Outsourcing. As a guideline, the distribution of risks along a typical outsourcing process can be useful for risk prevention in IT Outsourcing.

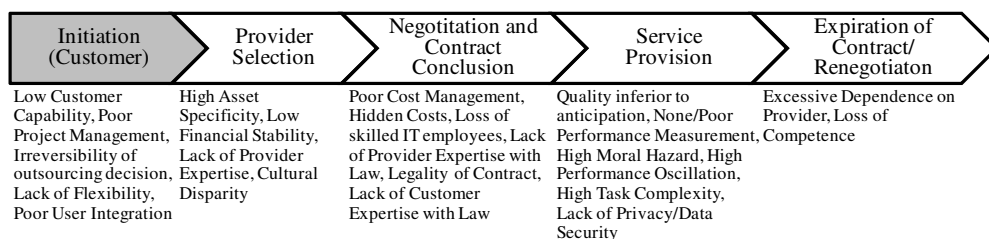


Figure 8. Risk Factors in a Typical Outsourcing Process (cf. Georgius & Heinzl 2005, p. 5).

## 4 OUTLOOK ON FORTHCOMING RESEARCH

### 4.1 Current Trends in IT Outsourcing Research

A trend clearly indicated by the analysis is the special focus that researchers placed on offshore outsourcing in the year 2008. It is also apparent that IT Outsourcing is not location dependent any more, which creates new tasks and challenges. Two factors for this development are certainly the globalization of IT and the improvement of ICT. The total number of papers on IT offshore outsourcing has continuously increased, ranging from 0 in the year 2001 to 1 in the years 2002 to 2004 and 10 in the year 2008. Indirect requests for research by several ‘Calls for Papers’ have influenced this development as well (e.g. MIS Quarterly, June 2008). Other current developments show that IT Outsourcing is strongly influenced by trends like cloud computing or the software as a service model. The notion of “cloud computing” has been especially dominant in journals aimed at readers with a practical background. Cloud computing could cause major changes in IT business in the near future; several providers like Amazon, Salesforce and Google are already offering IT services via the internet which are processed by the “cloud” (Hayes 2008, p. 10). Along with the increasing spread of these concepts and technologies, new fields of activity entailing new risk factors emerge and require a new design of risk management in IT Outsourcing (e.g. Buyya et al. 2008, p. 5).

### 4.2 Elements of a Research Agenda

Looking at the research results in Table 3 we noticed that a stronger focus on performance measurement seems to be needed to support the progress of ongoing research (Rustagi et al. 2008, pp.127-128). Another gap which was discovered while assigning the risks to the steps of the outsourcing process in Figure 8 is the small number of risks in the last process step. However, more risk factors that need to be considered may be identified through more detailed examination. Also, it became apparent that the risks and benefits of multi vendor sourcing are not well known yet (e.g. Sia et al. 2008). Furthermore, none of the analyzed articles applied the method of reference modeling. To the authors’ knowledge, no reference model for risk management in IT Outsourcing has been published to date. Risk management is not popular compared to other research topics in IT Outsourcing, but it is necessary for companies. Therefore, a proposed research agenda illustrated in Figure 9 includes the development of a reference model for risk management in IT Outsourcing which is based on best practices. Cooperating business partners could then implement such a reference model, which could be continuously improved by means of iterative loops. Figure 9 illustrates one way of constructing such a reference model for risk management in IT Outsourcing by applying the presented research methods. Already existing models, as e.g. the „eSourcing Capability Model for Client Organizations” (Hefley et al. 2006) or the COBIT framework could support these specific steps. In a next step, a comparison of the presented results with methods and theories of general IT risk management could strengthen the research agenda and is therefore projected by the authors.

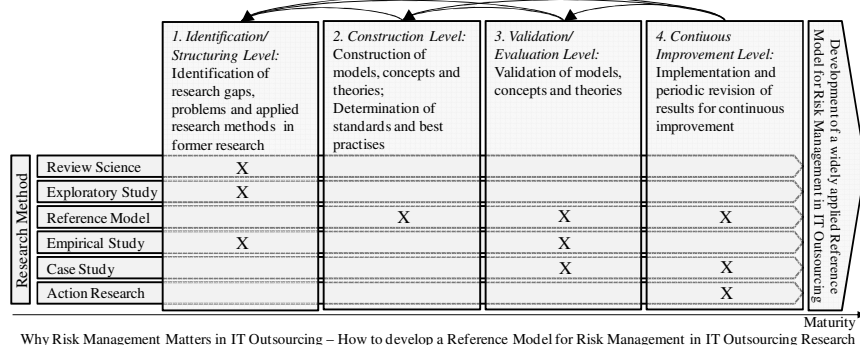


Figure 9. Elements of a Research Agenda.

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*A complete list of the 97 analyzed articles in our literature review is available for download at: [www.uwi.uos.de/itoutsourcingreview.pdf](http://www.uwi.uos.de/itoutsourcingreview.pdf).*

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