How to Steer the IT Outsourcing Provider

Development and Validation of a Reference Framework of IT Outsourcing Steering Processes

Problems and challenges associated with IT outsourcing often relate not only to the strategic level, but to the operational level as well. Especially organizations with little experience in implementing larger IT outsourcing programs face problems with the steering of external outsourcing providers. This article proposes a reference framework that structures the required processes for an effective steering of IT outsourcing relationships. The presented research is based on the design science paradigm. The framework is derived from related literature and validated by means of extensive fieldwork. It proves to be a viable instrument to support the systematic analysis of current processes and the definition of suitable target processes for the steering of IT outsourcing programs.

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1 Introduction

During the past few years, IT departments' role has changed significantly in many organizations. While these departments used to have a primarily internal delivery function within their companies, they now increasingly serve as service centers targeted at reaching a market price level and seeking to contribute to company success. Thereby, the importance of sourcing services from suppliers and delivering them to internal and/or external customers has increased (Riempp et al. 2008). This development

has become evident through the increase in information technology outsourcing (ITO), which generally refers to handing over IT assets, resources and/or activities to a third party management to achieve certain results (Willcocks and Lacity 1998). Since the late 1980s, the concept of ITO has emerged and has become an established option in strategic IT management for obtaining IT resources and capabilities (Dibbern et al. 2004; Lacity et al. 2009). The benefits organizations seek to attain with ITO can be categorized into strategic, economic, and technological benefits. These benefits stand in contrast to an increase in transactional costs, a decrease in flexibility as well as the service provider's and the client organization's conflicting objectives (Grover et al. 1996). Over the past few years, the ITO market has grown significantly, with a continuous increase in worldwide spending (ISG 2012).

Several studies have investigated and confirmed the benefits of ITO (e.g., Saunders et al. 1997; Koh et al. 2004; Lee et al. 2004; Thouin et al. 2009). However, the topic of ITO has always been accompanied with discussions about its effectiveness. Just recently, the realization of expected ITO benefits has increasingly been questioned. This is most probably triggered by the announcements of companies terminating outsourcing contracts and insourcing their IT assets because they have failed to produce the anticipated productivity increases (Hirschheim

and Lacity 2000; Qu et al. 2010). Since we observe both success and failure in ITO endeavors in comparable settings (see Appendix A, available online), we conclude that the problems with and challenges of ITO in organizations do not necessarily only relate to the general strategic decision of whether to outsource but often also to the ITO operational level. This conclusion is supported by Ruzzier et al. (2008, p. 107) who point out that "success or failure [of ITO] is directly related to the initial mechanisms in place to control the parties' interaction throughout their relationship." Therefore, we consider an effective steering of the outsourcing provider, including the required internal processes, an important success factor of ITO.

When we look at ITO in practice, we see that many organizations in fact face problems with the steering of larger outsourcing programs, particularly in the phase directly after the transfer of services to the outsourcing vendor (McCray 2008; CIO 2009; Blazent 2010). Especially those organizations with little experience in collaborating with external service providers, often do not possess the necessary knowledge and skills required to deal with the changing organizational structures and processes (McFarlan and Nolan 1995). Accordingly, we believe that practitioners need specific "management techniques and procedures that impact the relationship in the desired way" (Dibbern et al. 2004, p. 52). One important subset of these techniques and procedures is the means to support current processes' systematic analysis and the definition of suitable target processes for the steering of ITO endeavors.

The academic literature on ITO has primarily focused on five major research areas (Dibbern et al. 2004), answering the questions of why a firm should outsource (DiRomualdo and Gurbaxani 1998; Fisher et al. 2008), what it should outsource (e.g., Grover et al. 1994; Cronk and Sharp 1995), which decision process should be applied (e.g., Lacity and Hirschheim 1995; Smith and McKeen 2004), how to implement the sourcing decision (e.g., Cullen et al. 2005; Goo et al. 2009), and what the outcome of the sourcing decision will be (e.g., Florin et al. 2005; Oh et al. 2006; Wang et al. 2008). Extant research on ITO focusing on the outsourcing decision's implementation has sought answers to the questions: How can the impact of ITO counter-effects be reduced? And how can its strategic, economic, and technological benefits be harvested? This outsourcing research area basically covers three coherent parts (Dibbern et al. 2004): (1) vendor selection techniques (e.g., Michell and Fitzgerald 1997; Wadhwa and Ravindra 2007), (2) relationship characteristics (formal and psychological contracts) (e.g., Koh et al. 2004; Miranda and Kavan 2005), and (3) the steering of ITO (e.g., Klepper 1995; Goles and Chin 2005).

With our research, we aim to address the third sub-area on ITO steering. However, all three areas are highly intertwined. The vendor selection techniques depend on the desired relationship characteristics, while the formal contract defines the foundations of the steering processes. Vice versa, the continuous steering during the entire outsourcing venture leads to changes in both the formal and the psychological contract (Dibbern et al. 2004). Research on relationship characteristics and their influence on outsourcing success (e.g., Grover et al. 1996; Aubert et al. 1998; Lee and Kim 1999; Useem and Harder 2000; Wüllenweber et al. 2008) clearly shows that certain relationship characteristics (e.g., the completeness of the formal contract, perception of the service quality, trust, and flexibility) correlate positively with outsourcing success. Hence, beneath the strategic decision of what to outsource, the operational challenge is the day-to-day steering of these relationship characteristics that can make or break the outsourcing (Lacity and Willcocks 2003).

Over the past decade, research on implementing the ITO decision has focused on whether the combination of contractual and relational characteristics contribute to outsourcing success and, if so, how (e.g., Sabherwal 1999; Poppo and Zenger 2002; Goo et al. 2009; Lioliou and Willcocks 2009). Conversely, the matter of "management structure that needs to be in place to be able to operationalize, develop and maintain the relationship" (Kern and Willcocks 2000, p. 345) remains under-researched. Thus, we agree with Goo and Huang (2008) who argue that a deeper understanding is required of "how to manage IT outsourcing relationships to create and sustain strategic value" (Goo and Huang 2008, p. 216). While other kinds of outsourcing processes, such as vendor selection (Michell and Fitzgerald 1997) or site selection (Graf and Mudambi 2005), have been extensively addressed by previous research, specifically the question of how to steer the outsourcing provider needs further attention. Although several authors touch on ITO steering structures and processes (Aubert et al. 1999; Kern and Willcocks 2000; Beulen and Ribbers 2002; Goles and Chin 2005; Miranda and Kavan 2005; Gewald and Helbig 2006; Weimer 2009), we could not identify a comprehensive framework that consolidates the outsourcing steering mechanisms into one integrated model. While existing practitioner guides (e.g., ITGI 2005; Hefley and Loesche 2006; DIN 2010) can provide helpful advice, they are often very complex, prescriptive, and sometimes neither theoretically nor empirically grounded. They are often further limited in that they do not consider contextual differences, which is crucial for ITO (Gallivan and Oh 1999). Accordingly, we believe that the literature lacks an academically sound instrument that provides the required processes for ITO steering and takes the surrounding contextual factors into consideration.

To address the problem of practice and to fill the above-mentioned research gap, our research focuses on the development of a comprehensive but, at the same time, parsimonious reference framework for the effective steering of ITO relationships. Thereby, we aim at following the design science paradigm in information systems research. Accordingly, this paper reports on our efforts to theoretically ground, develop, apply, and evaluate such a framework. At the core of this will be a reference framework that we have synthesized from an analysis of the available literature as well as from empirical observation and evaluation. This paper's primary contribution thus lies in providing an applicable instrument for practitioners as well as in extending the existing body of knowledge on ITO governance addressing the question of how to implement the sourcing decision.

Our paper is organized as follows: In Sect. 2, we explain our methodological approach to designing our framework of ITO steering processes. In Sect. 3, we present the framework's design and explain its elements. In Sect. 4, we elaborate on the different steps for the framework's application and evaluation. Finally, Sect. 5 summarizes the study's results and outlines the research implications, limitations, and contributions.

Fig. 1 Design science research cycles (adopted from Hevner 2007)
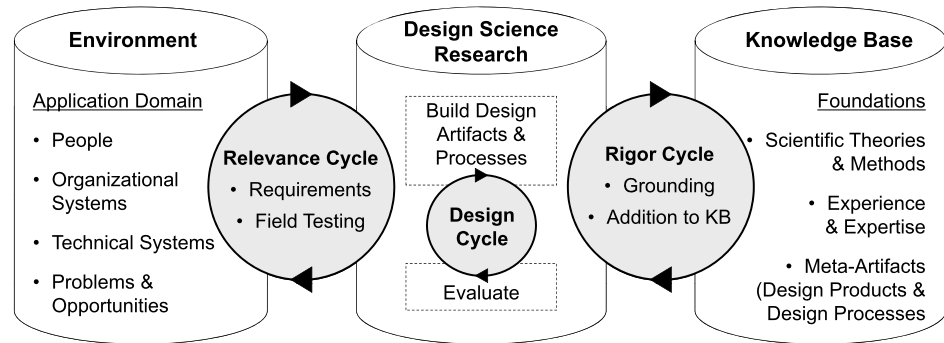
2 Research Method

Our study is based on the design science paradigm in information systems (IS) research (Nunamaker et al. 1990; Walls et al. 1992; March and Smith 1995; March and Storey 2008). Generally, design science research is a problem-solving (Hevner et al. 2004) and prescription-driven paradigm (van Aken 2004) that seeks to create new things (design artifacts) that serve human purposes (March and Smith 1995) and provide solutions to management problems (Gregor and Jones 2007). Those design artifacts can be of both a technical and, as is the case in our study, organizational-methodological nature (Boland 2004; van Aken 2007). In this particular case, we followed the design approach proposed by Hevner et al. (2004) and Hevner (2007) to develop our framework.

Adopting Hevner's three-cycle view of design science research (Hevner 2007), as depicted in **Fig. 1**, we began our research by conducting a *rigor cycle*. In this research phase, we reviewed scientific and application-oriented literature (Webster and Watson 2002; Vom Brocke et al. 2009) on existing approaches to ITO governing and steering as well as explicated our own background knowledge (Gehlert et al. 2009). The results provided a theoretical foundation for our design artifact in terms of justificatory knowledge (Gregor and Jones 2007). We present this theoretical foundation in Sect. 3.1.

The outcomes we received from the rigor cycle served as a basis for the initial *design cycle*. In this research phase, we constructed a first version of the ITO steering framework based on existing knowledge. During this phase, we internally evaluated the intermediate results against the requirements until a satisfactory design was achieved.

We then conducted three *relevance cycles* to evaluate our framework. In the

first iteration, we discussed our framework with subject matter experts in the ITO field. The second iteration was a field study in which we used a questionnaire based on our framework and conducted interviews to analyze existing ITO steering processes in a corporate environment. In the third iteration, we analyzed the outsourcing management processes of an outsourcing vendor to evaluate our framework's interoperability. The final result of our research is the evaluated framework presented in Sect. 3.2. The approaches we took to evaluate our framework are described in Sect. 4.

In order to provide assistance in conducting and evaluating good design science research, Hevner et al. (2004) developed a set of seven guidelines that should lead the design process. These guidelines are derived from the fundamental principle that the "knowledge and understanding of a design problem and its solution are acquired in the building and application of an artifact" (Hevner et al. 2004, p. 82). According to the guidelines, the outcome of design science research should be (1) an innovative, purposeful artifact that is (2) relevant to an unsolved (business) problem. The utility, quality, and efficacy of the design artifact should (3) be demonstrated via established evaluation methods. Effective design research must (4) provide clear and verifiable contributions as well as (5) rely upon the application of rigorous research methods. Finally, design science research should (6) be designed as a search process and its results must (7) be presented effectively both to technology-oriented as well as management-oriented audiences. In Sect. 5, we give a summary of how we addressed the seven guidelines during our framework's design process.

3 Development of the Framework

3.1 Justificatory Knowledge

The first step in the process of developing our framework was reviewing the literature on existing approaches to ITO governing and steering. In order to identify relevant literature on this specific topic, we started our literature search by reviewing comprehensive review articles on ITO (Dibbern et al. 2004; Lacity et al. 2009) and continued with a backward and forward search as proposed by Webster and Watson (2002). We built an initial pool of literature by screening the papers' titles, abstracts, and keywords and selecting those articles that seemed potentially relevant to our research. Besides the available academic literature, we considered "additional knowledge," which, according to Hevner (2007, p. 3), comprises "experiences and expertise that define the state-of-the-art in the application domain of the research." Thus, we also included application-oriented literature (practitioner books, specifications, and standards) in our review. Furthermore, the authors' expertise in that particular field of research has been implicitly incorporated into the initial framework design. Hence, we could draw upon several years of practical experience in ITO, both from the vendor and client sides, which was gathered during industry and management consulting engagements, especially for setting up the first framework drafts during the early stages of this research.

Upon reviewing the potentially relevant academic and practitioner literature of our pre-selected pool, we selected those publications that give explicit advice on how to implement ITO decisions in organizational settings. After consolidating the various terms (see Appendix B, available online), a set of six mechanisms for the steering of ITO emerged:

Quinn (1999, p. 19) recognizes *contract management* as one of the "crucial management controls" that companies that outsource successfully need to implement; other authors in this field have confirmed this mechanism (Currie and Willcocks 1998; Kern and Willcocks 2000; Beulen and Ribbers 2002). Moreover, practitioner frameworks (ITGI 2005; Gewald and Helbig 2006) further elaborate on contract management's tasks, with special emphasis on storing and communicating contractual agreements as well as on managing contractual changes.

The risks associated with ITO have been the subject of academic interest since the onset of outsourcing research (Earl 1996; Aubert et al. 1999). While several reoccurring risks and mitigation strategies (e.g., Wüllenweber et al. 2008) have been identified, steering processes that are important leverages to mitigate outsourcing risks have not been the subject of existing literature (Gewald and Helbig 2006). Accordingly, the need to implement *risk management* processes as part of an applied outsourcing steering framework has often been neglected. Drawing on our experience, project risk management processes (e.g., Chapman and Ward 1996) provide a sound foundation for the definition of ITO-specific risk management processes.

Monitoring the outsourced IT services' performance is one of the core competencies of an outsourcing organization (Kern and Willcocks 2000; Miranda and Kavan 2005; DIN 2010). The main challenge is to identify the relevant performance indicators that actually depict the outsourcing endeavor's strategic, economic, and technological objectives (McFarlan and Nolan 1995). An important part of *performance management*, and one that the academic literature often neglects, is capacity management, which includes the monitoring of the actual numbers of services provided (e.g., the number of desktops) (ITGI 2005).

The fourth steering mechanism to emerge from the academic literature can be grouped under the umbrella term *communications management*, which comprises the execution of appropriate meeting structures (Gewald and Helbig 2006), managing the information platforms (Beulen and Ribbers 2002), and resolving nascent conflicts (McFarlan and Nolan 1995; Goles and Chin 2005).
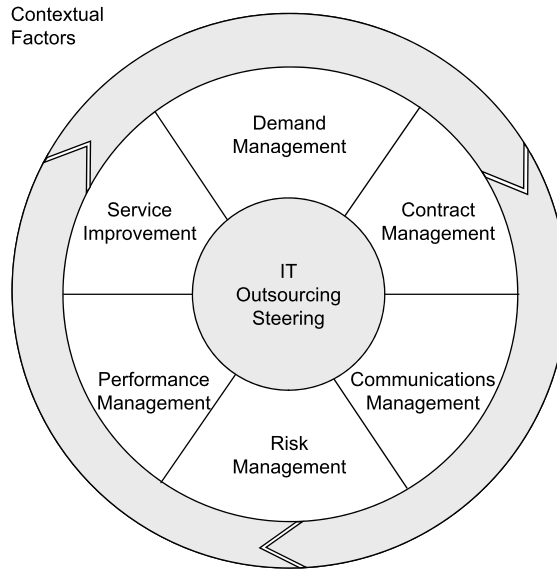

Fig. 2 Reference framework of IT outsourcing steering processes

While the *demand management* steering mechanism is seldom discussed in academic outsourcing research, it is a vital part of the application-oriented literature (Gewald and Helbig 2006; Hefley and Loesche 2006; DIN 2010). Demand management comprises the maintenance of the ITO service catalogue (DIN 2010) and the realization of demands that are not specified in the outsourcing contract (Hodel et al. 2004). Drawing on our experience, this mechanism is a crucial gatekeeper between the organization "asking for golden taps" and the outsourcing vendor that is "happy to deliver expensive services."

The second outsourcing steering mechanism, which is mainly found in the practitioner literature, can be labeled *service improvement* (DIN 2010). Since complex ventures like ITO are unlikely to be optimally configured from the outset, and the outsourcing contexts usually change over time, it is critical to steadily improve the outsourced services. Related activities can, for instance, comprise benchmarking studies during the contract duration to gear prices towards the market level.

While practitioner frameworks (ITGI 2005; Hefley and Loesche 2006; DIN 2010) mostly propose contextual-independent approaches, different empirical studies have shown that the mechanisms to improve outsourcing relationships depend on several *contextual factors* (e.g., Weimer 2009). Kern and Willcocks (2000, p. 329), for example, point out that "the outsourcing relationship depends largely on the contextual dimen-

sion which encapsulates the specific objectives and expectations (e.g., financial, business, technical and political), which in turn reflect the antecedent conditions." Other authors emphasize spatial proximity, the completeness of the contract, and the outsourced service's standardization as important surrounding conditions (McFarlan and Nolan 1995). Clearly, these aspects should be taken into account when developing a framework for ITO steering.

3.2 Synthesis of the Framework

We built an initial ITO steering processes framework on the basis of existing knowledge and our experience. The framework was refined after three evaluation steps (see Sect. 4). In its current form, the framework consists of six mechanisms that help IT managers effectively design and steer ITO relationships (**Fig. 2**).

On the basis of the insights gained during the framework's design and evaluation process, we conclude that these six mechanisms cover the relevant processes of effective ITO steering. A list of the mechanisms' processes and process descriptions can be found in **Table 1**. In the following sections, we describe our design principles for the six mechanisms as well as the contextual factors that should be considered for their successful implementation. Both the choice of design principles and the contextual factors are based on our practical experience in that particular field, the scientific literature we

Table 1 Process descriptions

Mechanism/Process		Description
1	Demand Management	Continuous process of identifying, analyzing, prioritizing, and implementing quantitative (e.g., additional server) and qualitative changes (e.g., new type of server, new service, non-standard services)
1.1	Service Catalogue Maintenance	Periodically updating and enhancing a catalogue of standard services
1.2	Requirement Specification	Process of ordering non-standard services: identification and analysis of technical requirements needed to optimize business processes, prioritization of requirements based on business impact and IT governance regulations
1.3	Project Management	Providing a standard set of project management techniques and utilizing them to manage the implementation of technical change
2	Contract Management	Management processes to ensure that contractual obligations are being carried out by both the service recipient and contractor and that changes are being reflected in the outsourcing contract
2.1	Communication & Archiving	Reduction of information complexity through the target group oriented editing of contract content and intelligent archiving mechanisms
2.2	Contractual Change Monitoring	Monitoring and communicating automatic contract changes (e.g., automatic price increase due to low usage)
2.3	Contractual Change Requests	Identification, development, and negotiation of contractual changes
2.4	Claim Management	Process responsible for identifying and verifying potential claims, deciding on how to proceed, and enforcing claims
3	Communications Management	Systematic planning, implementation, and revision of communication channels within the organization as well as between the organization and the contractor
3.1	Committee Execution	Staffing and organization of contractually defined committees as well as the further development of committee structures
3.2	Internal Communication	Communicating changes in IT procedures to the business and aligning internal and the provider's communication
3.3	Escalation Management	Coordinating communication processes and structures for escalation (e.g., urgency decision board)
3.4	Issue Management	Coordination of a joint (client and vendor) issue solving procedure
4	Risk Management	Identification, communication, controlling, and mitigation of risks on the basis of IT outsourcing risk categories
5	Performance Management	Mechanism to ensure that outsourcing goals are being tracked in an effective and efficient manner
5.1	Service Level Management	Process to clarify contractually agreed service levels, monitor service level agreements and communicate target achievements
5.2	Capacity Management	Verification and, if necessary, change of the reported consumed service's volume
5.3	Invoice Verification	Controlling of invoices received from the contractor
6	Service Improvement	Continuous process of identifying, analyzing, and addressing improvement potentials with respect to the services provided by the contractor
6.1	Benchmarking	Regularly comparing prices and service levels of the contracted outsourcing vendor and adapting the price list accordingly (needs to be agreed upon in the contract)
6.2	Improvements Realization	Coordination of service improvement activities

reviewed when designing the framework as well as the feedback we received during the framework's evaluation phase.

3.2.1 Demand Management

In the context of ITO, an outsourcing provider usually accepts the business departments' various demands and is able to implement appropriate solutions with its usually large resource pool – as long as the requester pays for the delivered service. At this point, demand management comes into play, which assures that only those requirements are realized that are (a) necessary and (b) compliant with the organization's IT governance standards. In this way, demand management supports both the IT strategy implementation and the IT cost control. Owing to the flexibility and change rate of IT services, demand management with an IT service provider is much more challenging than the transmission of requirements in the context of product-based vendor management. To implement effective and efficient demand management for IT services transferred outside the organization, we propose to handle standardized requirements by means of direct communication between the service provider and the users that are supported by the service catalogue. In contrast, individual requirements should be aligned with IT strategy and other requirements in close cooperation with the business departments involved. Thereby, decisions should be taken swiftly and should be transparent to the different stakeholders

involved in order to avoid local bypass services.

3.2.2 Contract Management

Contract management seeks to make the complexity of large ITO contracts controllable so that negotiated services can be claimed. It therefore has to consider that contractual weaknesses are practically unavoidable due to most contracts' complexity. Seeking to eliminate such weaknesses by further specifying the services as well as the mechanisms for charging and collaboration, is often counterproductive, since complexity further increases, inconsistencies occur, and the business units' review teams lose track of the contract. From our perspective, a more promising approach is the flexibilization of the contract (McFarlan and Nolan 1995), which leaves the service provider minimal room for opportunistic behavior. Thus, in order to implement contract management, we recommend that organizations invest in the transparent editing and communication of the contract's content. In general, IT contracts should not be static, but should be regularly adjusted to changing conditions. The contract manager position should be filled by someone who is very knowledgeable about and experienced in contract law, is assertive, and has strong communication skills.

3.2.3 Communications Management

Communications management refers to the systematic planning, implementing, monitoring, and revision of the communication channels within the organization as well as between the organization and the outsourcing contractor. While the other five ITO steering mechanisms are primarily fact-based, communications management seeks to build trusting relationships. A trusting relationship between an organization and an outsourcer often results in a significant reduction in transaction costs (Tiwana and Bush 2007). For the practical implementation, we suggest that communications management should be strongly anchored in the retained organization and be undertaken by assertive employees in order to avoid overemphasizing the implemented control mechanisms. In challenging cost situations, resources for communications management should not be cut in order to save, since trustful relationships support solving conflicts regarding claims

against a business partner. However, a trustful relationship should not be mistaken for some kind of "fraternization" in which insufficiencies are hidden and, thus, potentials for improvement are not realized.

3.2.4 Risk Management

In the context of ITO, several types of risks can be identified, such as strategic, operational, financial, legal, and contractual risks (Earl 1996; Ajitkumar et al. 2008). Risk management relates to the identification, mitigation, communication, and controlling of those kinds of risk (Stoneburner et al. 2002). For the implementation in the ITO context, we propose that risk management should be realized as an integral part of ITO steering, rather than just another facet of corporate risk management. Thereby, risk management should build on the organization's existing methods and report to the corporate risk management. Ideally, risk management should also have a control function for the other ITO steering mechanisms and should control these mechanisms' risks.

3.2.5 Performance Management

Performance management ensures that ITO goals are being tracked effectively and efficiently. In our view, two types of problems related to performance management usually occur. First, contractually defined service levels often focus on simple technical indicators with which the outsourcing goals are hard to track. Second, performance is often primarily measured using financial indicators. However, financial indicators do not sufficiently report on the achievements from a functional perspective (e.g., improved process support). For the implementation of performance management, we suggest to accept and consider that the service provider's financial objectives inherently contradict those of the outsourcing organization. Thus, controlling instruments, such as the Balanced Scorecard (Kaplan and Norton 1996), should include the organization's objectives, while also leaving room for the service provider to optimize the IT service processes and, thus, to achieve its goals. Furthermore, capacity controls (the number of services actually provided) should be included in the controlling mechanisms. The measuring of

the actually consumed services throughout the organization forms the basis of further key processes (e.g., invoice verification).

3.2.6 Service Improvement

The five steering mechanisms outlined above only unfold their full potential once their realization results in effective changes and the steering mechanisms themselves are continually improved. In the ITO context, service improvement refers to the continuous identification, analysis, and addressing of improvement potentials in the service provided. To implement service improvement, we propose making the techniques for service improvement comparable. Thus, the communication of results and anchoring in management-by-objectives will lead to competition and to service improvement within the organization gaining significance. However, owing to the variety of analysis and comparison options available today, there is a risk of over-engineering the action tracking process. Thus, complex software support should be treated with caution, as achieving pragmatic solutions is considered crucial. An important task of service improvement is the execution of benchmarking studies. In ITO settings, there is a significant risk of lock-in situations (Aubert et al. 1998), often resulting in offers with prices above market level. To mitigate this risk, we suggest anchoring benchmarking clauses in the ITO contract (Miranda and Kavan 2005). Thus, the customer organization gets the opportunity to gear prices towards the market level throughout the contract's duration.

3.2.7 Contextual Factors

The specific implementation of the six mechanisms depends on several context factors that should be taken into account. Although an individual customization is relatively cost-intensive and time-consuming, simply adopting off-the-shelf process descriptions usually leads to ineffective solutions (e.g., Hardy et al. 1995). In our view, the most important contextual factors to be considered are the overall IT strategy (the ITO endeavor's goals) (Jarillo 1988; Cullen et al. 2008), processes (criticality, speed of change, and degree of standardization) (see relevance cycle 3), the outsourced technology (maintainability,
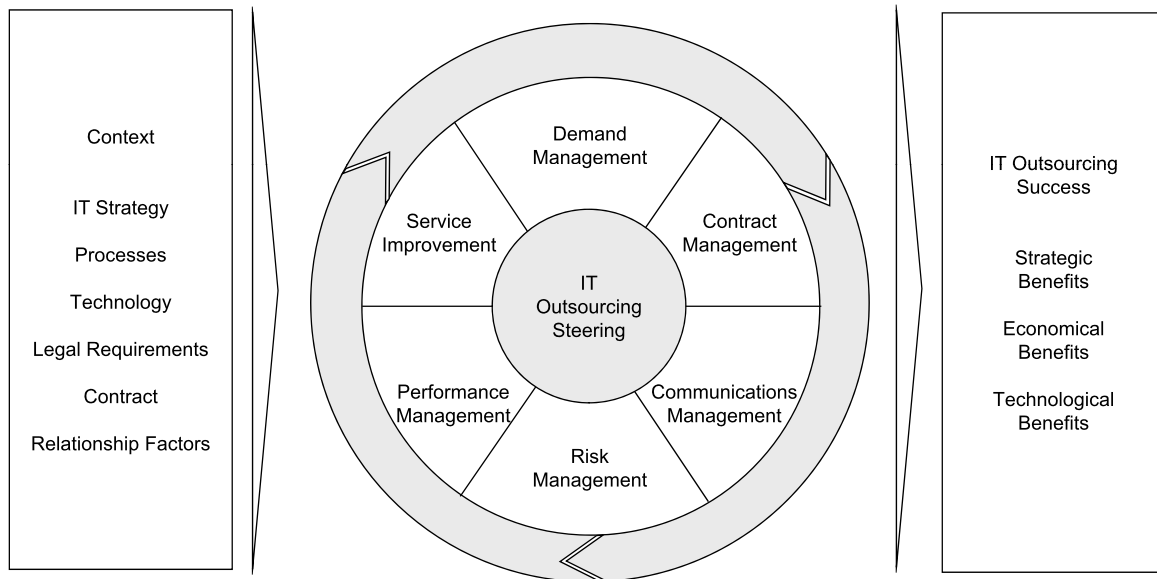
Fig. 3 Contextual factors, steering mechanisms, and the success of ITO

speed of change, and degree of standardization) (Grover et al. 1996), legal requirements (control restrictions (e.g., MaRisk), data protection (e.g., BDSG in Germany)) (see relevance cycle 1), the outsourcing contract (type of service, mode of billing, and quality of the contract) (Marcolin and McLellan 1998), as well as relationship factors (trust, spatial proximity, and number of vendors) (Sabherwal 1999; Goo and Huang 2008). We recommend considering these contextual factors when implementing the ITO steering mechanisms. **Figure 3** shows the developed reference framework in combination with the contextual factors which reflect the antecedent conditions as well as the ITO benefit categories as outlined in Sect. 1.

4 Evaluation of the Framework

After designing an initial version of the reference framework, the next stage of our research project comprised the framework's evaluation and refinement. In line with the research methodology outlined above (see Sect. 2), we used three relevance cycles to further improve the framework (as displayed in **Table 2**). Within this evaluation phase, we took several measures to further improve our design artifact until we felt that we reached the point of "conceptual saturation" (Briggs and Schwabe 2011, p. 4), after which additional relevance cycles would not yield any significantly new insights. The following paragraphs outline

the three cycles in further detail. To sum up, **Table 3** summarizes the measures we took within the chosen evaluation approach.

4.1 Cycle 1 – Expert Discussions

In the first cycle, we assessed the initial version of our reference framework (illustration, process descriptions, design principles, and contextual factors) by conducting guided interviews with three subject matter experts from a management consulting company. We used a semi-structured interview guide with open-ended questions (see Appendix C; available online), which provided both a clear set of guiding questions as well as an opportunity for identifying new ways of seeing and understanding the topic at hand (Patton 2002). The interviewees were chosen for their extensive experience in ITO. The interviews sought to evaluate the framework for acceptance, comprehensibility, completeness, and operationalizability (Benbasat and Zmud 1999). Therefore, every evaluation dimension was explicitly addressed by the interview guide's questions. Each of the three expert interviews was conducted by a single interviewer who took notes to capture the respondent's answers and lasted approximately one hour. We subsequently analyzed the qualitative data gathered from the interviews by identifying and consolidating both the positive statements as well as the suggestions for further improvements. Thereby, we

put special emphasis on the interviewees' feedback addressing the four evaluation dimensions.

The overall evaluation of the first interviewee was mainly positive, as the following statement indicates:

"*The framework is comprehensible and, due to its clear descriptions, applicable in practice. I find the 'continuous improvement' mechanism, which is missing in most other models, very beneficial. The most important contextual factor, from my perspective, is the overall IT strategy.*"

The benefit of considering contextual factors was further highlighted by the second interviewee:

"*Although I like simple models, I am glad to see that you have added contextual factors. Especially the soft factors like trust and just 'knowing each other from the past' may change meeting structures, escalation procedures, and the intensity of the 'hard processes.'*"

Continuing on the topic of contextual factors, the third interviewee concluded:

"*I like the idea of setting the steering processes into context, but, considering my last project in the financial industry, I would add the legal stuff in the context. And a crucial skill on the client side is project management. If you don't have a tough project manager on the client side, you have no chance to manage the ongoing changes.*"

The three interviews confirmed that the framework basically satisfies our self-defined requirements with regard to the evaluation dimensions, i.e. the framework was generally accepted by the

Table 2 Evaluation approach

Relevance Cycles	Cycle 1	Cycle 2	Cycle 3
Methodological Approach	Expert discussions	Field study (action research)	Document analysis, interview
Input	Experts from a management consulting company	IT management of a pharmaceutical company and its major business units	Outsourcing framework of a global IT outsourcing vendor/framework manager
Dimensions of Evaluation	Acceptance by subject matter experts Completeness Comprehensibility Operationalizability	Acceptance by mid-level management Applicability to practice Comprehensibility	Acceptance by ITO vendor Completeness Interoperability

Table 3 Summary of artifact evaluation

	Cycle 1	Cycle 2	Cycle 3
Acceptance	The framework was accepted by subject-matter experts from a consulting company as a valuable instrument for ITO steering	The framework was accepted by mid-level managers of a major enterprise as an appropriate baseline for a gap analysis of their as-is ITO steering processes	The framework was accepted by a framework manager of an ITO vendor as a valuable instrument for the effective steering of ITO
Applicability	n/a	By utilizing the framework for the gap analysis and implementing selected processes, its applicability in practice could be demonstrated	n/a
Completeness	The interviewees considered the framework (after revision) to include all relevant mechanisms for an effective ITO steering	n/a	Both the document analysis and the interviewee's feedback indicated the completeness of the developed framework (after revision)
Comprehensibility	The interviewees acknowledged the comprehensibility of the framework's structure and presentation	The organization's management involved acknowledged the comprehensibility of the framework's structure and presentation	n/a
Interoperability	n/a	n/a	The analysis' results and the cookbook author's feedback indicate that the framework is interoperable with the processes of an outsourcing provider
Operationalizability	The framework's mechanisms and processes were found to be implementable in organizational environments	n/a	n/a

subject-matter experts as a valuable instrument for ITO steering and it was considered to include all relevant steering mechanisms. Furthermore, the interviewees acknowledged the comprehensibility of the framework's structure and presentation as well as appraised the mechanisms and processes to be realizable in practice. Nevertheless, we also used the three interviewees' suggestions for improvement to further refine the frame-

work. These modifications included re-wordings, extensions, as well as further specifications and thus addressed the above-mentioned four dimensions of evaluation. The most significant amendments were the definition of benchmarking as a separate process of the service improvement mechanism as well as the addition of legal requirements to the contextual factors. The subject matter experts' feedback finally resulted in

a revised version of the reference framework, which we wanted to test in an organizational scenario as a next step.

4.2 Cycle 2 – Field Study

In the second cycle, we sought to evaluate our design artifact in a practical application scenario. We therefore followed an action research approach (Cole et al. 2005; Järvinen 2007) to apply the refer-

ence framework to a large German pharmaceutical company (around 23 billion Euros of revenues, more than 45,000 employees) and its major international business units. The field study took place in May 2010 and lasted about two weeks. Again, the objective was to evaluate the framework for comprehensibility. Furthermore, we wanted to analyze how the framework can be applied in practice and its acceptance by mid-level management.

Within the field study, the reference framework was used as the baseline for a gap analysis of the existing ITO steering processes in the organization. The reference framework was therefore translated into a questionnaire which was distributed to the management of the corporate service management unit and the six major business units. The questionnaire was used to assess the existing processes' maturity and importance, the urgency of their improvement needs, as well as their responsibility within the organization (corporate IT department, business unit's IT department, or federal responsibility). Therefore, we included descriptions of the framework's mechanisms and processes in the questionnaire as well as scales for assessing the four evaluation criteria (see Appendix D; available online).

After receiving the completed questionnaire, the results were discussed with the responsible managers to clarify misunderstandings and to receive a final assessment. On the basis of the seven assessments, the gap analysis was conducted and recommendations for action were made. The as-is steering processes were compared with respect to their importance and urgency assessments in a portfolio matrix in order to highlight those processes with high importance and high priority at the same time. Thus, escalation management, issue management, and service catalogue maintenance were identified as the top three areas for improvement. The analysis of the as-is processes' maturity demonstrated considerable heterogeneity with respect to all steering mechanisms and indicated only poorly defined contract management practice in particular. The final results were discussed with the corporate and business units' IT directors and service managers in a workshop format.

Finally, the organization's management decided to implement the suggestions for improvement. Accordingly, the proposed ITO steering processes were designed and the responsibilities defined (mostly federal responsibility). When customizing the steering processes, we tried to consider the specific organizational conditions and contextual factors in order to address the organization's needs as best we could. After the suggestions had been implemented, several improvements in the relationship between the organization and the outsourcing provider were observed. Among others, a clear escalation procedure between corporate IT, business units, and the outsourcing provider was defined and implemented. A second major improvement was the introduction of a joint issue management. A collaboration platform was introduced, providing access to both the organization and the outsourcing provider, with which to clearly assign tasks to individuals. This has enabled the management to identify and eliminate bottlenecks. The evolution of the service catalogue towards a solution-orientation (instead of technology-orientation) significantly increased the acceptance of the outsourcing venture within the observed organization. Finally, establishing contract management processes enabled the organization to claim negotiated services that were not properly delivered by the outsourcing provider.

This second cycle further demonstrated the comprehensibility of the reference framework. In addition, we observed that the framework could be applied in a practical environment and that a large enterprise's mid-level management would accept it. As our experiences within this evaluation step were very satisfying, we modified the frameworks only in terms of rewording the process descriptions during the field study. For example, we sharpened the demand management process "order process for standard (SSR) and non-standard service requests (NSSR)" and termed it "requirement specification (for non-standard changes)." This modification became necessary as we realized during the field study that demand management for standard and non-standard changes are processed in significantly different ways and that standard changes can be covered by service catalogue maintenance.

4.3 Cycle 3 – Document Analysis and Interview

While hardly any frameworks are available for ITO steering from the client perspective, especially in organizations that have only little experience of implementing larger ITO programs, ITO providers have developed practical instructions ("cookbooks") on how to implement and manage outsourcing deals from the provider's side. We believe that the outcome of an ITO venture depends, among other factors, on the interoperability of the client's steering processes and on the vendor's outsourcing delivery processes. Hence, the main objective of the third cycle is to evaluate the framework for interoperability and acceptance by ITO providers as well as for completeness.

Therefore, in a first step, we analyzed the outsourcing management cookbook of a global-acting German IT service provider by focusing on suggested activities, interfaces with the client, and contextual factors. In a second step, we validated our analysis's results with one of the outsourcing management cookbook's authors. Furthermore, we discussed our steering framework with him in order to evaluate its acceptability for providers. The duration of the guided interview was approximately one hour. Again, notes were taken to capture the respondent's answers.

When analyzing the activities set out in the outsourcing management cookbook, our guiding question was: "What is the vendor doing and in what direction should the client steer?" The analyzed cookbook consists of nine activities, namely start, service delivery, people development, manage performance, continuous improvement, business development, customer relations, stakeholder communication, and account reporting. When analyzing these activities, one reoccurring theme emerged: the preparation of claims and the identification of new business opportunities for the vendor. Besides the obvious activity, "implement business development," we found similar instructions in "service delivery" ("*perform claim management by identifying and documenting new claims*"), "customer relationship" ("*opportunity list*"), and in two further activities. This underlying – from a business perspective, natural – intention requires steering mechanisms on the client side, especially for a strict demand management and tight claim / counter-claim management.

We focused the interface analysis on what a vendor delivers for the client's steering purposes and what is expected from the client. There are four activities interfacing with the client's steer-

Table 4 Addressing the design science research guidelines

	Guidelines	Approach
1	Design as an Artifact	The result of our research endeavor is a design artifact in the form of a framework of IT outsourcing steering processes (see Sect. 3). We described the artifact in a way that should allow its application and implementation in organizational practice
2	Problem Relevance	By solving an important and relevant organizational problem (see Sect. 1), the developed design artifact can be considered purposeful in practice
3	Design Evaluation	We demonstrated the utility, quality, and efficacy of our framework by means of three relevance cycles (see Sect. 4). In each of the cycles, we applied established research methods for the design artifact's evaluation
4	Research Contributions	Our research results address an identified research gap (see Sect. 1) and, thus, make a valuable contribution to theory
5	Research Rigor	We designed the framework by relying on the application of rigorous research methods, both in the design artifact's construction (see Sect. 3) and evaluation phases (see Sect. 4)
6	Design as a Search Process	The framework was developed iteratively through the application of design science research cycles (see Sect. 2) until conceptual saturation was reached
7	Communication of Research	With the paper at hand, we present our research results to an academic audience. With an additional publication in a practice-oriented outlet (Urbach and Würz 2012), we further aim at informing organizational decision-makers

ing organization, namely service delivery, continuous improvement, relationship management, and stakeholder communication. These activities feed into the client's steering processes (service level agreement and capacity reports, changes and improvements, meetings, communication packages, and billing reports) and receive information from the client, such as change requests and client feedback. Based on the interface analysis, we suggest adding the process "invoice verification" to the steering framework.

While the outsourcing management cookbook is not designed to explicitly consider contextual factors, it does recognize the impact of trust and the criticality of the provided services: "The kind of business (type of provided service) and relationship may imply evolving [...] governance structures." The influence of trust on control processes is widely researched (Sabherwal 1999; Goo and Huang 2008), but the "type of service" has, to the best of our knowledge, not been mentioned in the academic literature as a contextual factor.

The interviewed co-author of the provider's outsourcing cookbook agreed with our analysis' results and commented on the cookbook's focus on identifying sales opportunities:

"*In today's competition, outsourcing deals are won by the price only. For us, this means we do not earn much money with the initial standardized deal. Hence, we need to focus the delivery on change requests and enhancements to reach our margins.*"

Going through our steering framework, the interviewee argued from the vendor perspective:

"*I would appreciate it if a client had such processes in place. It would make it much easier for us to execute the deal, for instance, if we had clear escalation levels on the client's side. And, at some point, almost all clients lack proper internal communication. IT outsourcing often means a switch from the 'Hey Joe principle' to clear, and sometimes lower, service levels. This needs to be communicated by the CIO to the business.*"

The analysis results and the feedback of the cookbook author indicate that the steering framework is interoperable with the processes of an outsourcing provider. Furthermore, this evaluation step confirmed the framework's acceptance by an ITO vendor and gave additional confirmation of its completeness. Finally, the third relevance cycle also provided valuable insights into extending the steering framework. These extensions comprise new processes, such as "claim management," "invoice verification," and "internal communication," as well as an additional contextual factor, "processes."

5 Summary and Outlook

In this paper, we proposed a comprehensive and integrative reference framework for the effective steering of ITO relationships. We used existing literature and additional knowledge as a basis for the initial design. The design was refined by means of three iterative evaluation and design cycles. The framework evaluation was carried out considering three complementary perspectives, namely the perspectives of subject matter experts in the field of ITO, an organization that has outsourced parts of their IT, and an outsourcing service provider. The results demonstrate that our predefined evaluation criteria have been met and that the framework is considered valuable for the organization in which the field study took place. In order to demonstrate the quality of our research approach, we summarize our efforts for achieving compliance with the guidelines for design science research in IS proposed by Hevner et al. (2004) in **Table 4**.

Our research has some limitations. Although the developed reference framework was validated through three evaluation cycles, the empirical evidence on which our analysis is based still shows some improvement potential.

In Cycle 1 of our evaluation approach, three subject matter experts were chosen to discuss the initial framework by means of a convenience sampling strategy. Since these experts are from a single firm and were not chosen randomly from a pool of experts in the field of ITO, their judgments were potentially biased. Additional bias might have been caused by all three experts being members of a consultancy firm and, thus, not having fist-hand experience in ITO management. In general, in this early stage of research, a more open approach would have been better to mitigate potential confirmation bias.

Furthermore, Cycle 2 was carried out in a single case study. Thus, the collected

empirical data may not provide sufficient evidence for the proposed framework's applicability in practice. Likewise, we could not really measure how the gap analysis and the subsequent implementation of suggestions have improved the given situation, since no quantitative indicators had been defined upfront. Accordingly, we could only qualitatively describe our observations of how the organization could benefit from our work. Moreover, the chosen action research approach has some inherent limitations as indicated by Baskerville (2011).

Cycle 3 is based on a single framework of only one outsourcing provider. Although we received valuable input for the development of our framework, we do not know how much "insider information" the interviewee hid from us. To fully consider the vendor perspectives, additional empirical evidence should be incorporated into the further development of the steering framework.

Accordingly, even though we feel that we reached the point of conceptual saturation, future research might extend this study by adding additional relevance (and the resulting design) cycles. Therefore, the reference framework should be applied to further application scenarios. The additional relevance cycles can subsequently be improved by using more systematic success analyses, including questionnaires and/or semi-structured interviews.

In its current form, the reference framework comprises steering processes with a narrow focus on ITO. In many organizations, ITO management is considered part of the IT vendor management (Liu and Yetton 2010). Future research endeavors could investigate how the ITO steering fits into the broader concept of IT vendor management and how it can be integrated into respective corporate activities. Additional value added for practice could be generated by demonstrating how to integrate the framework into widespread practitioner frameworks, such as ITIL (itSMF 2007) and COBIT (ITGI 2012).

Keeping the limitations of the study in mind, our results contribute to both theory and practice. From a practical point of view, the developed reference framework offers guidance to organizations regarding implementing ITO steering processes to improve their relationship with their service provider. Thus, it might help IT management increase

productivity as anticipated when implementing ITO. From an academic point of view, our research results give an answer to the question of how to steer the outsourcing provider. By filling the research gap described in this paper's introduction, our contribution to theory extends the existing body of knowledge in the ITO governance field.

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Abstract

Nils Urbach, Tobias Würz

How to Steer the IT Outsourcing Provider

Development and Validation of a Reference Framework of IT Outsourcing Steering Processes

IT executives entering into information technology (IT) outsourcing arrangements seek various strategic, economic, and technological benefits. However, although several cases of IT outsourcing are considered successful, cases of failure can also be observed. Problems and challenges associated with IT outsourcing often not only relate to the strategic decision whether or not to outsource, but to the operational level as well. Especially organizations with little experience of implementing larger IT outsourcing programs face problems with the steering of external outsourcing providers. In this paper, we propose a reference framework that structures the required processes for an effective steering of IT outsourcing relationships. The research is based on the design science paradigm in information systems research. In a first step, we derive a framework from related literature and knowledge in this particular area. We then undertake extensive fieldwork, including expert interviews and field studies to evaluate our framework and to develop it further. The suggested framework proves to be a viable instrument to support the systematic analysis of current processes and the definition of suitable target processes for the steering of IT outsourcing programs. This paper's primary contribution therefore lies in providing an applicable instrument for practitioners as well as in extending the existing body of knowledge on IT outsourcing governance.

Keywords: IT outsourcing, Steering processes, IT outsourcing governance, Design science

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