SUCCEEDING IN APPLICATION SERVICES OUTSOURCING STRATEGIES - A CONTINGENCY PERSPECTIVE

Saskia Zelt  
*University of St. Gallen, St. Gallen, Switzerland, saskia.zelt@unisg.ch*

Jochen Wulf  
*University of St. Gallen, St. Gallen, Switzerland, jochen.wulf@unisg.ch*

Alexander A. Neff  
*University of St. Gallen, St. Gallen, Switzerland, alexander.neff@unisg.ch*

Falk Übernickel  
*University of St. Gallen, St. Gallen, Switzerland, falk.uebernickel@unisg.ch*

Walter Brenner  
*University of St. Gallen, St. Gallen, Switzerland, walter.brenner@unisg.ch*

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Zelt, Saskia, University of St.Gallen (HSG), Institute for Information Management, St. Gallen, Switzerland, saskia.zelt@unisg.ch
Wulf, Jochen, University of St.Gallen (HSG), Institute for Information Management, St. Gallen, Switzerland, jochen.wulf@unisg.ch
Neff, Alexander A., University of St.Gallen (HSG), Institute for Information Management, St. Gallen, Switzerland, alexander.neff@unisg.ch
Uebernickel, Falk, University of St.Gallen (HSG), Institute for Information Management, St. Gallen, Switzerland, falk.uebernickel@unisg.ch
Brenner, Walter, University of St.Gallen (HSG), Institute for Information Management, St. Gallen, Switzerland, walter.brenner@unisg.ch

Abstract

Prior research has revealed that succeeding in application services outsourcing (ASO) is more complex than the outsourcing of other information technology (IT) functions. This complexity results from the closeness to business processes and lower degree in the standardisation of ASO. The present research endeavour explored the relationship between specific strategy configurations, the so-called ‘gestalts’, and the success in ASO. By deriving a contingency model, we identified the internal factors which moderate the relationship between a particular outsourcing gestalt and its success. We conducted comparative case study research with 20 large German and Swiss enterprises. Basing on the notion of literal and theoretical replication, we identified the salient contingency factors and the forces amongst them. We were able to show that the success of the different gestalts is moderated by distinct sets of contingencies, considering the organisational structure, application portfolio structure and the information systems (IS) capabilities implemented. The results contribute to a more differentiated understanding of outsourcing contingencies and support an anticipatory assessment of outsourcing configurations in ASO.

Keywords: Application Services Outsourcing, Outsourcing Gestalt, Outsourcing Success, Outsourcing Strategy.

1 Introduction

Although information technology outsourcing (ITO) is ‘a commonly accepted and growing practice’, only a few enterprises have realized sustainable success (Han et al. 2008). As a consequence organizations suffer from a loss of essential capabilities and/or business failures (Loh and Venkatraman 1992; Ngwenyama and Bryson 1999). One explanation for some of the outsourcing failures is the complexity of ITO decisions (Lacity and Hirschheim 1993; Loh and Venkatraman 1992; Ngwenyama and Bryson 1999). Based on prior work identifying the determinants of outsourcing success, Lee et al. (2004) furthermore identified three ideal outsourcing strategy configurations, which they refer to as outsourcing gestalts.
In addition, Lacity et al. (2009) emphasised that there are differences in succeeding with the outsourcing of distinct IT functions and that in the past, the outsourcing of application development and maintenance was less successful than the outsourcing of, e.g., infrastructure services. One fundamental difference, according to Abbas et al. (2010) and Fisher et al. (2008), is the degree of standardisation: Whereas IT infrastructure largely represents a commodity, most of the applications are closely tied to business functions.

Nevertheless, the increasing pressure on IT organisations to increase efficiency or modernise the application landscape leads to the intention to increase the amount of their application services outsourcing (ASO) (Britz et al. 2012). When deciding on the scope of outsourcing, the particular set of conditions an organisation is facing has to be accounted for (Watjatrakul 2005). Therefore, the determinants for succeeding in ASO need to be better understood. Practitioners also suggest that the success of different ASO configurations is influenced by specific internal attributes. For example, Gliedman (2004) underlines that application portfolio management can support the selection process of applications for outsourcing as well as the overall management of the outsourcing contract.

While the outsourcing gestalts derived by Lee et al. (2004) guide ITO decision makers in terms of the outsourcing scope and contractual aspects, the specific internal determinants that influence the success of applying a gestalt to ASO remain unaddressed. In order to identify these distinct factors – which determine the success of outsourcing configurations for application services – we analyse the gestalts identified by Lee et al. (2004). Therefore, we have applied a case study design to investigate 20 large German and Swiss enterprises across various industries. We use the theory of multiple contingencies (Gresov 1989) in order to analyse their individual and mutual effects. Hence, our research addresses the following research questions:

- What are internal factors that moderate the success of application services outsourcing strategies?
- How do these factors vary in different gestalts applied for application services outsourcing?

The remainder of the paper is structured as follows: The next section presents a brief introduction in the field of ASO, outsourcing success, outsourcing strategies and gestalts. The following section describes the applied research design. After deriving the model, including the specific characteristics for each contingency influencing the success of a particular gestalt, these results are discussed and reflected in light of prior research findings. Finally, the conclusion section discusses limitations and the possible future research agenda.

2 Theoretical Foundation

In the following, we conceptualise ASO using the lens of outsourcing strategy gestalts. In Schwarz et al.’s (2009) definition, application services include ‘all services associated with the acquisition, development, and deployment of an IT application’. Building on the research questions, we aim to develop a contingency model covering the ASO-specific factors influencing success with a particular outsourcing gestalt. Therefore, we build on the following major constructs from the contingency model by Lee et al. (2004): (1) outsourcing success and (2) outsourcing gestalts, which are ideal configurations of outsourcing strategy dimensions that have been empirically proven to be more likely to succeed.

Success as an outcome variable of ITO is a frequently investigated matter in outsourcing (Dibbern et al. 2004). Gonzales et al. (2010) state that satisfaction is the most suitable variable for measuring success, as it factors in the costs and benefits of outsourcing and appears to be the most valid measure available. Most commonly, satisfaction is determined in terms of the outsourcing objectives achieved (Dibbern et al. 2004). These include constructs regarding strategic, economic and technological benefits, as well as outsourcing implications, information systems (IS) recognition and the overall relationship (Dibbern et al. 2004). Based on the six strategic foci introduced to explain desired
outsourcing benefits by Lacity and Willcocks (2001), Lee et al. (2004) measured outsourcing success as satisfaction with three different possible outsourcing outcomes, specifically strategic competence, cost efficiency and technology catalysis. Strategic competence comprises an organisation’s desire to redirect ‘the business and IT into core competences’ (Lacity and Willcocks 2001). The objective cost efficiency includes ‘improving the business’ financial position’ (Lacity and Willcocks 2001). Finally, technology catalysis is defined as ‘strengthening resources and flexibility in technology services to underpin business’ strategic direction (Lacity and Willcocks 2001).

Analysing previous literature, Lacity et al. (2009) identified the following three broad categories of determinants for outsourcing success: ITO decisions, contractual governance and relational governance. Rather than investigating the determinants of success as a single relation, Lee et al. (2004) further included the interrelation between ITO decisions and contractual governance determinates with the aim of identifying the ideal configuration types most likely to result in success in outsourcing. Therefore, they developed a research model which applied the constitution of fit in ITO strategies. Based on the residual rights theory, they determined three dimensions as part of outsourcing strategy, as follows: the decision scope (relating to the degree of integration), the contract type (relating to the allocation of control) and the contract duration (relating to the performance period). The decision scope is defined as “the proportion of IT function in- or out-sourced” which results in minimal outsourcing (less than 20% of the IS budget), selective outsourcing (between 20 and 80% of the IS budget) and comprehensive outsourcing (more than 80% of the IS budget) (Lacity et al. 1996). The contract type defines who possesses authority over the processes, and its sub-dimensions are buy-in, fee-for-service and partnership. While with a buy-in contract the client retains authority over the process and hires workers on a hourly-base, a fee-for-service contract includes an authority transfer to the outsourcing provider for the contracted part of IT functions with resources belonging to the provider necessary for fulfilment (Lacity and Willcocks 1998). Within a partnership, the authority for most of the IT functions are transferred to the provider based on an unspecified contract and a continuous alignment between the client and provider to ensure service delivery (Ang and Beath 1993). The contract duration specifies ‘the period of time to which both parties are committed to interacting with each other’ (Lee et al. 2004). The contract duration is operationalised as short, medium or long term.

Using Miller’s (1981) contingency approach to identify organisational gestalts as well as the three forms of governance, that is, hierarchy, market and networks (Williamson 1995), Lee et al. (2004) determined three gestalts which they anticipated to be more likely to succeed in a particular outsourcing outcome (see Table 1).

<table>
<thead>
<tr>
<th>Gestalt</th>
<th>Governance form</th>
<th>Decision scope</th>
<th>Contract type</th>
<th>Contract duration</th>
<th>Anticipated Outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td>Independent</td>
<td>Hierarchy</td>
<td>Minimal</td>
<td>Buy-in</td>
<td>Short-term</td>
<td>Strategic competence</td>
</tr>
<tr>
<td>Arm’s-length</td>
<td>Market</td>
<td>Selective</td>
<td>Fee-for-service</td>
<td>Medium-term</td>
<td>Cost efficiency</td>
</tr>
<tr>
<td>Embedded</td>
<td>Network</td>
<td>Comprehensive</td>
<td>Partnership</td>
<td>Long-term</td>
<td>Technology catalysis</td>
</tr>
</tbody>
</table>

Table 1. Outsourcing gestalts introduced by Lee et al. (2004).

So far, analysis against the background of a comprehensive view on ASO is relatively rare (Ross and Beath 2006). We employed the contingency model by Lee et al. (2004) with the three outsourcing gestalts as a starting point for an ideal outsourcing strategy to investigate the specific internal factors that moderate the success of each gestalt in ASO.
3 Research Methodology

Our research intends to explain how internal variables influence the allocation of outsourcing strategies for applications services. As no model with established hypotheses exist, we chose case study research (Benbasat et al. 1987; Paré 2004; Yin 2003) with a multiple holistic design (Yin 2003) to derive a contingency model. Thus, the constructs and measures emerge in the course of the analysis (Eisenhardt 1989). Prior to data collection, however, the research design should be guided by theoretical propositions in the sense of a hypothetical story about why acts, events, structures and thoughts emerge (Sutton and Staw 1995; Yin 2003). Our study is guided by the general proposition that different internal variables are crucial components for the fit or misfit of a chosen or targeted outsourcing gestalt in ASO. Thus, we are able to predetermine and measure constructs, which possess the potential to affect the outsourcing success, based on prior research findings. Additionally, the possibility that new constructs and measures occur in the course of our investigation was included (Eisenhardt 1989; Paré 2004).

We chose to derive a contingency model, as the theory suggests that there is no single best way to achieve fit among organisational factors (Galbraith 1973). Hence, the success of an organisation depends upon its ability to cope with different conditions in the internal and external environment. The systems approach to contingency theory (Drazin and Ven De Ven 1985) calls for a holistic consideration of many context factors and contingencies in order to better understand the interrelationship of strategy and performance.

3.1 Data acquisition

For the data collection, we used a theoretical sampling strategy (Eisenhardt 1989; Glaser and Strauss 1967). Furthermore, we concentrated on large German and Swiss organizations with a turnover of 50 million euros or more (OCED 2005). We choose no industry focus, in order to ensure the generalisation of the results without the influence of industry specific peculiarities. We started out with a literature review (vom Brocke et al. 2009) to identify the gestalts, success and potential constructs of outsourcing strategies and application services–related contingencies.

The constructs were then included in an interview guideline with standardised, open-ended questions (Patton 2002) and a questionnaire with closed-ended questions. Thus, data from the closed questions can facilitate the qualitative data analysis as well as the interpretation of findings (Eisenhardt 1989). The guideline and the questionnaire were pretested by two chief information officers (CIOs). Furthermore, external data about the companies were collected and consolidated in company factsheets. In a preparation call, the answered questionnaire was jointly reflected upon; notes were taken about the statements in the interviews at this time.

Initially, we provided a questionnaire to 37 companies and conducted phone interviews. After an initial analysis of the questionnaire results and phone interviews, we selected the firms matching the gestalts by Lee et al. (2004). We then looked at the outsourcing success for the gestalts in relation to particular outsourcing outcomes; these were determined by questions derived from those introduced by Lee et al. (2004) and verified by the data from the phone interviews.

To include the same number of organisations with successful and unsuccessful outsourcing arrangements, we selected equal groups of firms per gestalt for the final data analysis. We ended up with a case base of 20 firms, eight for the independent approach, eight for the arm’s-length strategy and four for the embedded design. An overview of the cases is given in Table 2.
Following the snowball sampling strategy, the initial interview partners were asked to invite additional colleagues (Dubé and Paré 2003; Goodman 1961). During the interview, one of the two interviewers guided the interview while the other kept the minutes (Dubé and Paré 2003; Eisenhardt 1989). Data validity of the interview protocol was ensured by a final review from the interviewee(s).

### 3.2 Data analysis

Data analysis was performed as an iterative process (Miles and Huberman 1994). To structure our open coding, we were inspired by the principles of Glaser’s “six C’s” family coding (Glaser 1978). Initially, we coded context factors (determined by the environmental factors of the organisation), contingency factors (defined as contingencies directly related to the application management organisation and the resources including the application portfolio and capabilities) and covariances (determined by the chosen outsourcing gestalt as the operationalisation of the outsourcing strategy), as well as consequences (in the sense of success for a particular outsourcing outcome). Even though, the hypothesis that the embedded approach outperforms the other gestalts in achieving strategic competence was not fully supported by the study of Lee et al. (2004), we included the success measure for an anticipated outsourcing outcome due to theoretical reasoning. For simplification, in the final model, we included the context factors in the group of contingency factors.

During coding, we triangulated interview data using the survey data, factsheets, notes and internal documents provided by the interviewees after the interview (such as organisational charts and process documentation). First, we derived the context and contingency factors through the identification of factors influencing the success of outsourcing found in the data. Second, we searched for cross-case patterns, which comprised within-group similarities (Eisenhardt 1989) determined by the gestalts. Therefore, each factor was reflected in the literature in order to determine an adequate and reliable measurement of each factor and to generalise the statements across the cases. This allowed the comparison of characteristics within and across gestalts. We then recoded the data by scoring each variable (in most cases with a three-point scale, i.e., low, medium, high) to prepare the case comparison. The assessment allowed the identification of salient characteristics of the contingency factors for each gestalt presented in the contingency model.
To indicate the inter-rater reliability, an additional researcher coded the data following a coding scheme. This researcher was initially not involved in the research project, but familiar with the field of research. To measure inter-rater agreement, we used the Cohen’s kappa index of inter-rater reliability. The Cohen's kappa coefficient turned out to have a substantial value at 0.65 (Landis and Koch 1977).

During the entire research project, two senior researcher jointly carried out data collection and analysis. This limited the risk of bias in data collection and inconsistency of the obtained data (investigator triangulation) (Patton 2002).

4 Research Results

The contingency model was derived based on the results of the coding, as shown in Figure 1. The number with each factor illustrates the code frequency.

![Contingency Model](image)

Within the model, we differentiated between four groups of contingencies, as follows: (1) context factors, (2) organisational structure, (3) application portfolio and (4) IS capabilities. In the following, we introduce the model items with their reinforcing or dominating characteristics which influence the outsourcing success of a gestalt. Inspired by Sambamurthy and Zmud (1999), we distinguish between dominating contingencies, which are vital for high performance, and reinforcing contingencies, which reinforce a positive or negative effect on outsourcing success in combination. Further, Table 3 summarises the results and presents the salient characteristics of the contingency factors for each gestalt.
As we aimed to extend the contingency model derived by Lee et al. (2004), we also included the context factors, industry, and size from the original model. During coding, two aspects seemed to have particular potential to influence the success of a gestalt, specifically industry dynamism and IT department size.

Industry dynamism can be described as the intensity of changes relevant to the firm’s environment (Randolph and Dess 1984). Organisational science has demonstrated the importance of industry dynamism in decision making (Child 1972). Nevertheless, our analysis did not reveal any clear impact of industry dynamism as an influencing factor for the success of any of the three gestalts. The IT department size can best be defined and measured by the number of IT employees in an organisation (Teo et al. 2003). We also included the IT budget, as the number of IT employees decreased with the degree of outsourcing. The independent approach seems to benefit from a small IT department size as a reinforcing factor. For the embedded approach, a small IT department size was even revealed to be a dominant factor, as all successful organisations had a small IT department and all unsuccessful ones had a large IT department. In contrast, three of the four successful companies adopting the arm’s-length approach had a large IT department and only one had a small IT department; unsuccessful companies showed the reverse pattern (three small, one large). Hence, we considered a large IT department to be a reinforcing factor for the arm’s-length strategy.

### Table 3. Salient contingency forces for the gestalts in ASO.

<table>
<thead>
<tr>
<th>Contingency</th>
<th>Independent</th>
<th>Arm-length</th>
<th>Embedded</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Context factors</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Industry dynamics</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>IT department size</td>
<td>Small (r)</td>
<td>Large (r)</td>
<td>Small (d)</td>
</tr>
<tr>
<td><strong>Organisational structure</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Centralisation</td>
<td>Medium (r)</td>
<td>High (r)</td>
<td>High (r)</td>
</tr>
<tr>
<td>Specialisation</td>
<td>Low (r)</td>
<td>High (r)</td>
<td>N/A</td>
</tr>
<tr>
<td>Formalisation</td>
<td>Low (r)</td>
<td>High (d)</td>
<td>N/A</td>
</tr>
<tr>
<td><strong>Application portfolio</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Standardisation degree</td>
<td>N/A</td>
<td>High (r)</td>
<td>Low (r)</td>
</tr>
<tr>
<td>Portfolio complexity</td>
<td>N/A</td>
<td>Low (r)</td>
<td>High (r)</td>
</tr>
<tr>
<td>Technical condition</td>
<td>N/A</td>
<td>Healthy (d)</td>
<td>N/A</td>
</tr>
<tr>
<td><strong>IS capabilities</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Organisational relationship</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Application portfolio management</td>
<td>Low (r)</td>
<td>High (d)</td>
<td>N/A</td>
</tr>
<tr>
<td>Managerial IT capabilities</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Technical IT capabilities</td>
<td>High (r)</td>
<td>Medium (r)</td>
<td>Low (r)</td>
</tr>
<tr>
<td>Informed buying</td>
<td>N/A</td>
<td>High (d)</td>
<td>Medium (r)</td>
</tr>
<tr>
<td>Contract facilitation</td>
<td>N/A</td>
<td>High (d)</td>
<td>High (d)</td>
</tr>
<tr>
<td>Contract monitoring</td>
<td>N/A</td>
<td>High (r)</td>
<td>High (r)</td>
</tr>
<tr>
<td>Vendor development</td>
<td>N/A</td>
<td>High (d)</td>
<td>High (d)</td>
</tr>
</tbody>
</table>

Contingency forces: d = dominating; r = reinforcing
N/A: No clear results could be derived from the data or the factor did not seem to influence the success of the gestalt
4.2 Organisational structure

Studies taking organisational structure into account (e.g., Damanpour 1991; Pugh et al. 1968)) identified different important design elements which are relevant for the unit of analysis. During the coding, we identified only three dimensions of organisational structure responsible for delivering application services with a potential influence on the outsourcing success of a chosen gestalt. These were as follows: centralisation, formalisation, and specialisation.

Centralisation describes the extent to which decision authority is dispersed or focused within the organisation (Pfeffer 1981). For our model, we suggested that the degree of centralisation could influence the manner of selecting the outsourcing scope and facilitates and controls the outsourcing relationship. While for the independent approach, we mainly detected a medium degree of centralisation, the arm’s-length and embedded approaches seemed to benefit from a high degree of centralisation. Nevertheless, the factors were not dominant as we also detected a low and medium degree of centralisation for the arm’s-length approach and one high degree of centralisation for the arm’s-length and embedded approaches.

Formalisation is related to the use of rules and procedures. While high formalisation is determined by explicitly documented and standardised approaches, low formalisation relates to an organic structure with individual approaches (Aiken and Hage 1971; Blau and McKinley 1979). Successful organisations within the group using the independent strategy tended towards low formalisation. Successful organisations using the arm’s-length and embedded approaches appeared to exhibit high formalisation: ‘We have a highly formalized incident management process for nearly all applications. This is also used by all our vendors in order to guarantee a hitch-free problem solving’ (Direct to the CIO, Case L, arm’s-length/successful).

Specialisation describes the extent to which the department and staff are functionally specialised in their tasks and skills (Burns and Stalker 1961; Plugge and Bowman 2008). Specialisation leads to subunits with staff that have specialised, less universal skills (Lawrence and Lorsch 1967). In the case of application services, high specialisation typically refers to a separation of development, maintenance and operations and related tasks into different teams. The data revealed that successful organisations utilising the independent strategy benefit from a low degree of specialisation: ‘Even though each employee is assigned to a dedicated team, each employee is able to fulfill development and maintenance tasks for several technologies. This enables a flexible allocation to projects, as well as the ability to work with and to supervise external personnel in a joint team’ (Direct to the CIO, Case A, independent/successful). For the arm’s-length approach, a high degree of specialisation seems reinforcing: ‘We separated application development and maintenance into different teams. This also allows a separation in outsourcing which enables us to exploit competitive forces between the vendors’ (CIO, Case I, arm’s-length/ successful).

4.3 Application portfolio structure

Application portfolio characteristics range from the complexity of an application landscape (Simon et al. 2010) to technical quality (Weill and Vitale 1999). From the study data, we identified three major application portfolio characteristics with potential influence on the outsourcing success of an outsourcing gestalt, specifically standardisation, technical condition and complexity. For the independent approach, we were unable to derive a clear result regarding whether and how the application portfolio structure influences success.

The standardisation of an application portfolio refers to the degree of standard software installed (Gable et al. 2001). For the arm’s-length approach, a high degree of standardisation was found to be a reinforcing factor. As one informant noted, ‘Our application portfolio is based on up to 90% standard software’ (CIO, Case I, arm’s-length, successful). In contrast, the embedded approach seemed to
benefit from a low degree standardisation in the application portfolio in a dominant way: ‘Our outsourcing arrangement works because we found an individual way with the provider which is not based on leveraging benefits due to standards in the portfolio across multiple organisations’ (CIO, Case R, embedded/successful).

The technical condition of an application portfolio is determined by the technical quality of its applications (McKeen and Smith 2010). This covers the applications’ source code quality, maintainability, compatibility, degree of documentation and architectural fit (Simon et al. 2010). The data revealed a healthy technical condition of the portfolio as a dominating factor to succeed in the arm’s-length gestalt. As one interviewee stated, ‘After an analysis of the application portfolio, we consolidated a huge amount of applications by retiring out-dated and obsolete applications. This dramatically decreased the operational effort for applications, and for some applications, enabled the outsourcing’ (CIO, Case J, arm’s-length/successful). For the embedded approach, an unhealthy portfolio condition can even trigger the decision to apply the approach.

Portfolio complexity involves the number of applications, the number of interfaces, systems with redundant functions and data and the technical complexity of applications (McKeen and Smith 2010). The arm’s-length approach seems to benefit from a low complexity. For the embedded approach, a high portfolio complexity was detected for both successful organisations: ‘Our application portfolio consists of a complex structure of individual software. Our outsourcing partner understands this complexity by managing all applications together’ (CIO, Case R, embedded/successful).

4.4 IS Capabilities

We categorised the identified capabilities based on the work of Willcocks and Feeny (2006), as well as Han et al. (2008), who discuss the major IS capabilities required for outsourcing in general. Out of these capabilities, we identified four categories with potential influence on the success in ASO, as follows: organisational relationship capabilities, IT capabilities, application portfolio management capabilities and vendor management capabilities.

Organisational relationship capabilities cover the ability to align IT and business in order to make effective decisions on IT issues (Han et al. 2008). All companies possessed high organisational relationship capabilities, so no particular influence on success was detected in relation to the gestalts.

Managerial IT capabilities involve the knowledge of where and how IT (and in our research, applications in particular) is installed and guarantees that business objectives are met efficiently and effectively (Han et al. 2008). For this group of capabilities, we detected a similar result as for organisational capabilities. Technical IT capabilities are defined as the technical knowledge and skills required to develop, maintain and operate applications (Han et al. 2008). The data revealed that technical IT capabilities could actually be outsourced depending on the strategy used. In terms of the independent approach, organisations aimed to maintain all technical IT capabilities internally, and these were only sourced on a short-term basis in order to close a knowledge gap. Thus, high technical IT capabilities are a reinforcing factor. For the arm’s-length approach, technical IT capabilities were kept internally if the capability possesses a critical strategic or business impact. For the embedded approach, we detected low technical IT capability; as most of the IS budget is outsourced to the vendor, the technical knowledge is mainly located with the outsourcing partner: ‘We don’t actually do IT; we are managing IT. Thus, pure technological skills are very rare in our IT organisation’ (CIO, Case R, embedded/successful).

The capability of ‘designing a technical architecture’ (Willcocks et al. 2006) with regard to ASO refers to application portfolio management (APM) capabilities which enable an ‘on-going management process of categorization, assessment, and rationalization of the IT application portfolio’ (McKeen and Smith 2010). Based on the application portfolio management maturity model by Simon et al. (2010), which allows the determination of the capabilities’ implementation status, we detected different
maturity levels for each gestalt. Our data revealed that all organisations successfully applying the independent approach held a low maturity in APM capabilities as a dominating force. In contrast, organisations succeeding in the arm’s-length approach possessed high maturity in APM capabilities as a dominant force: ‘Our application management enables our lifecycle-oriented outsourcing of application with the goal of outsourcing all end-of-lifecycle applications, as well as applications with a “maintain” status’ (IT Manager, Case K, arm’s-lengthuccessful). The results regarding the embedded approach are twofold. One successful organisation had a high application portfolio maturity, the other possessed low maturity. ‘The decision over a single outsourcing partner to carry out a portfolio modernisation was enabled by our comprehensive portfolio analysis and planning’ (CIO, Case Q, embedded/successful). Nevertheless, one interviewee from the second successful organisation stated, ‘We do not possess a detailed documentation of the application landscape as this is part of our outsourcing provider’s duties’ (CIO, Case R, embedded/successful). In the unsuccessful organisation, APM capabilities were low; thus, no clear conclusion could be derived.

Vendor management capabilities include four capabilities. Informed buying is the ability to analyse the market with regard to business and technology needs, as well as outsourcing selection options (Willcocks et al. 2006). Contract facilitation ensures the ability to guarantee fair and effective solutions to problems with the IT service provider(s) (Willcocks et al. 2006). Contract monitoring is defined as the ability to hold the vendor account to the fulfillment of contracts and the development of performance standards of the services market (Willcocks et al. 2006) and reduce contractual risks (Chen and Bharadwaj 2009). Finally, vendor development includes the identification and development of potential added value through the vendor (Willcocks et al. 2006). For the independent strategy, we were not able to identify the need for explicit vendor management capabilities. For the arm’s-length approach, all four vendor management capabilities were found to be essential: ‘We introduced a vendor evaluation process in which we allocate suppliers to different categories to support our multi-vendor strategy. […] Our vendor management possess clear interfaces and formalised handover processes’ (CIO, Case I, arm’s-length/successful). Contract facilitation and vendor development are dominant factors here: ‘We have strict service level agreements for the performance measurement of our vendors’ (CIO, Case J, arm’s-length, successful). The ability to develop the vendor relationship is a dominating force for the embedded strategy: ‘We continually have to develop our partnership to ensure the improvement of our IT organisation’ (CIO, Case R, embedded/successful).

5 Discussion

Although our data did not reveal a significant impact of industry dynamism on the success of a particular gestalt, prior research has discussed the influence of this factor on the use and success of outsourcing. Contrary to Qu et al. (2011), Mahnke et al. (2005) state that companies with a low industry dynamic have more to gain from IS outsourcing, as the transaction costs for negotiating and maintaining outsourcing arrangements are expected to be higher in dynamic environments. Lee et al. (2004) found that for industries with a lower dynamic, selective outsourcing was significantly more effective than minimal and comprehensive outsourcing (Lee et al. 2004). While Lacity et al. (2011) did not uncover any size pattern regarding outsourcing decisions, Barthélémy and Geyer (2004) found that large organisations are less likely to consider total outsourcing. Large IT departments have the potential to better leverage economies of scope in outsourcing in the case of selected IS functions and applications (Barthélemy and Geyer 2004). Our results confirm these findings, as small organisations are more likely to succeed with the independent and embedded approaches, and large IT organisations cope better with the arm’s-length approach.

In order to deal with different market situations, different types of organisational structures are required (Morgan 1986). In their contingency model used to evaluate the fit of ITO supplier capabilities with outsourcing performance, Pluge and Bouwman (2012) identified the organisational structure as the leading moderating variable. While centralisation allows top-down optimisation and
high information intensity at high management levels, decentralisation enables middle management to optimise its output (Dewett and Jones 2001). This appears to explain our finding that the independent approach is more successful in loose structures, as it allows organisations the flexibility to integrate external staff on a daily basis. In contrast, the arm’s-length and embedded approaches seem to benefit from central mechanisms to better facilitate the outsourcing arrangement. Formalisation seeks to avoid ambiguity and enhance efficiency (Perrow 1986). High formalisation can support centralisation, but limits flexibility and autonomy (Plugge and Bouwman 2012). Our study revealed that the arm’s-length and embedded approaches rely on a high degree of formalisation. Formalisation can limit flexibility (Plugge and Bowman 2008); in a low degree, it enables the flexibility needed for the independent approach to involve short-term internal staff in a more efficient way. An organisation which is able to share its resources across services (specialisation) can achieve economies of scope, resulting in lower costs (Teece 1980). Thus, the arm’s-length approach benefits from a high specialisation.

In terms of outsourcing, asset specificity (Coase 1937) refers to the uniqueness of an organisation’s hardware and/or software and the skills of the IS staff (Cheon et al. 1995). Applications based on standard software have more potential to be customised, deployed and maintained by the market (Gable et al. 2001). Application portfolios with a high degree of standardisation generally exhibit higher outsourcing potential. Our data extended these findings, as for the arm’s-length approach, high standardisation was found to facilitate the outsourcing arrangement. In contrast, for embedded strategies, a high degree of standardisation provides no benefits. Heterogeneous, non-transparent and vast application portfolios result in increasing costs for maintenance and support (Simon et al. 2010). A poor technical condition often has its roots in mergers and acquisitions and rapid company growth (Caruso 2007) in combination with the missing ability to retire old or redundant applications (McKeen and Smith 2010). This makes the outsourcing of applications or application clusters less promising against the background of efficiency increase through outsourcing. Thus, for the arm’s-length approach, an unhealthy technical condition lessens the chance of success. In contrast, the embedded approach is better to achieve technology catalysis, and thus, outsourcing can benefit from the modernisation and improvement of the entire portfolio (or a vast part of it) driven by the outsourcing partner. Prior research discussed the role of comprehensive outsourcing partnerships in enabling organisations to transfer their application portfolios in terms of modernisation, consolidation and harmonisation of applications and functionalities (Ross and Beath 2006). Prior research has also shown that highly integrated application landscapes increase the complexity and the extent of interactions with IT service providers. Therefore, organisations should consider comprehensive outsourcing approaches instead. (Barthélemy and Geyer 2004) Further, Hui et al. (2008) argue that spanning activities that are highly interdependent from one another affects the efficiency of controlling and coordinating the activities. This emphasises our findings that the success of the arm’s-length approach is limited by high complexity in the application portfolio, whereas the embedded approach might benefit from such complexity.

Various studies in the literature have addressed IS capabilities in general (Barney 1991; Bharadwaj 2000; Wade and Hulland 2004): Willcocks and Feeny (2006), for instance, determine nine core IS capabilities crucial for outsourcing success. Beside the transfer of too much control to the outsourcing provider, uncontrollable complexity and the lack of required internal capabilities cause outsourcing failures (Rouse and Corbitt 2003). Prior research revealed that IS capabilities have varying roles in different types of allocation of control to the vendor, with fee-for-service contracts having the highest requirement in the sense of IS capabilities installed (Zelt et al., 2013). Strong APM capabilities enable an organisation to select the IT functions and applications for outsourcing. Thus, these represent a dominant force in the arm’s-length strategy. Further, APM seeks to reduce complexity and improve the technical condition of the application portfolio, which influences the success of this gestalt, as shown above. The reason for the low success of organisations with APM capabilities using the independent approach seems to lie in the changed perceptions and expectations brought about by mature APM capabilities. Vendor management capabilities become more important with the transfer
of responsibility (Zelt et al., 2013). This explains why the data analysis did not reveal explicit vendor management capabilities for the independent gestalt. Moreover, the relationship quality has an individual basis and the individual fit between internal and external staff members.

6 Conclusion

To address the research questions, we derived a contingency model pointing out the contingencies influencing ASO success allocated to context factors, the organisational structure delivering application services, the condition of the application portfolio and the IS capabilities of an organisation. Furthermore, we determined the salient contingency factors for each gestalt through a case comparison. The arm’s-length gestalt turned out to be the most demanding strategy in the sense of requirements. Particularly, the portfolio condition and strong APM capabilities are vital for success in this strategy.

Our contribution to the field is threefold. First, we have enlarged the existing contingency perspective of outsourcing gestalts (Lee et al. 2004) in terms of factors specifically influencing the success of ASO. Furthermore, we have made a contribution to the knowledge base of understanding the complexity of outsourcing decisions, as well as its success (Lacity et al. 2010). From a practitioner’s perspective, our contribution deepens the understanding of critical requirements for specific ASO strategies: These results help to assess whether critical requirements have been fulfilled and the targeted arrangement is likely to succeed prior to implementing an outsourcing strategy. Moreover, they cover different degrees of integration and allocations of control. Enterprises can therefore equally consider outsourcing and back-sourcing approaches (Whitten and Leidner 2006).

The external validity of the results is limited by the scope of the unit of analysis, the nature of the contingency perspective and the characteristics of cross-sectional case study analysis. With respect to the unit of analysis, this research focussed on the client’s perspective concerning ASO; the vendor’s characteristics, which complementarily determine outsourcing success, were not included (e.g. Plugge et al. 2013). Furthermore, the geographical concentration might cause limitations in the sense of transferability to other countries, as other research has demonstrated geographical differences in outsourcing decisions (e.g. Dibbern 2012). The contingency perspective naturally adopts a narrow definition of fit/misfit and performance, which often simplifies the complexity of economic decision making (Weill and Olson, 1989). A combination of quantitative approaches could extend the external validity of the contingency model (Weill and Olson 1989).

Due to the nature of cross-sectional research, we did not analyse dynamic aspects like the planned or on-going transition from one to another gestalt (Jayatilaka and Hirschheim 2009). Therefore, we have potentially overlooked a time lag responsible for the success of the outsourcing arrangement (Weill and Olson 1989) and the dynamic effects of continuously changing organisations (Zajac et al. 2000), from a perspective, for example, of dynamic capabilities (Teece and Pisano 1994). Thus, the results of the derived contingency model could further be investigated from a longitudinal research perspective.

References


