

BACKGROUND OF IT OUTSOURCING

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1 IT Outsourcing

Carrying out research in the field of IT outsourcing and hereby concentrating on offshore software development (OSD), we decided to structure the following chapters along the hierarchy of outsourcing research fields illustrated in Figure 1. Here, IT offshoring can be regarded as a sub-field of IT outsourcing, and in turn, OSD can be viewed as sub-field of IT offshoring.

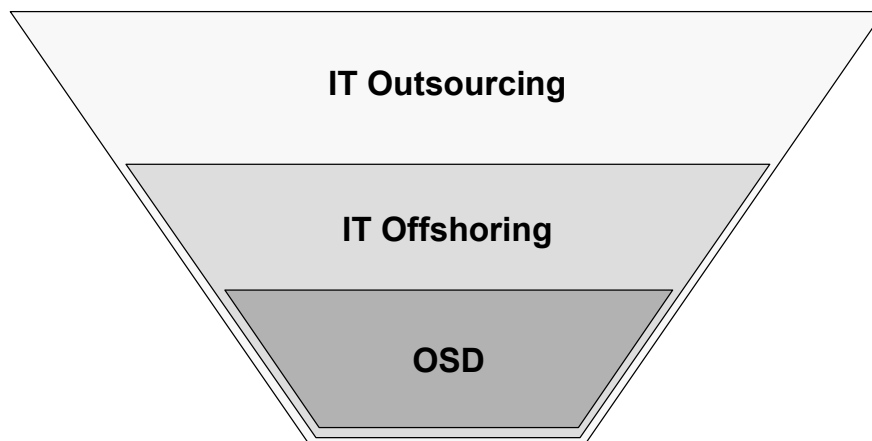


Figure 1: Outsourcing research field hierarchy

In regard to the hierarchy presented above, the term IT outsourcing **in a broad sense** is defined as IT outsourcing including IT offshoring and OSD, whereas IT outsourcing **in a narrow sense** refers to IT outsourcing excluding IT offshoring and OSD.

1.1 Definition

In the following, pivotal terms in the field of IT outsourcing are defined. Alongside IT outsourcing itself, IT offshoring as well as OSD is introduced. At this point it must be emphasized that the three terms examined are related to one another as described above.

According to Allweyer et al. (2004), the word “outsourcing” finds its roots in the words “outside”, “resource” and “using”. Generally speaking, it reflects the use of external agents to perform one or more organizational activities (e. g. purchasing of a service) and is therefore not solely specific to IS. In addition, Schwarz (2005) argues that the aspect of in-house performance of a specific activity prior to outsourcing that same activity must also be considered, as some start-up companies speak of “outsourcing” functions which they have never performed themselves. Nevertheless, the term is currently in vogue in the IS field of research, applying to everything from the use of contract programmers to third party facilities management (Dibbern et al., 2004). In IS literature, **IT outsourcing** has distinctly been defined as follows:

“the practice of turning over the planning, management and operation of certain functions to an independent third party, under the terms of a formalized service level agreement. It is usually, but not always, characterized by the transfer of assets from the customer to the service provider.” (Sparrow, 2003, pp. 1-2)

“...turning over part or all of an organization’s IT/IS functions to external service providers.” (Chen et al., 2002, p. 101)

“...the third party provision of IT products and services.” (Hackney and Hancox, 1999, p. 1)

“...business practice in which a company contracts all or part of its information systems operations to one or more outside information service suppliers.” (Hu et al., 1997, p. 288)

“...a decision taken by an organization to contract-out or sell the organization’s IT assets, people and/or activities to a third party vendor, who in exchange provides and manages assets and services for monetary returns over an agreed time period.” (Kern, 1997, p. 37)

“...the handing over to a third party management of IT/IS assets, resources, and/or activities for required results.” (Kern and Willcocks, 1998, p. 2)

The concept of Application Service Providing (ASP) represents a modified form of IT outsourcing and can often be found in IS literature. An ASP-consortium, founded in 1999, defines ASP as follows: *“An ASP [application service provider] deploys, hosts and manages access to a packaged application to multiple parties from a centrally managed facility. The applications are delivered over networks on a subscription basis.”* (Knolmayer, 2000, p. 443)

In contrast to traditional IT outsourcing, the applications of an ASP concept are only sparsely, if at all, tailored to meet the individual client’s request. As a result, ASP providers develop their applications in alignment with specific target groups (Knolmayer, 2000).

The concept of **IT offshoring**, also referred to as offshore outsourcing, can be regarded as a sub-category of IT outsourcing. While the classic outsourcing of IT functions requires an external provider situated in the same country as the client, Haried and Nazareth (2005) define IT Offshoring as “...a term used in the United States to refer to IT outsourcing that occurs outside the United States.” (p. 2664)

In a more general fashion, without mentioning a specific country, Adalakun and Jennex (2003) suggest the following definition: “Offshore outsourcing is the transference of an Information Technology (IT) function, from a client company to a supplier organization located outside the borders of the client company’s country.” (p. 12)

Further definitions frequently found in IS literature include the following:

“...sharing or transferring of responsibility for some or all IS services to a third-party vendor who operates from a foreign country.” (Lado et al., 1997, p. 27)

“...an activity where client firms outsource IT activities to external service providers in other countries.” (Currie et al., 2003, p. 996)

External Processing	Onshore Outsourcing	Offshore Outsourcing
	Internal Service Provision	Captive Offshore Outsourcing
In-house Processing	National	International

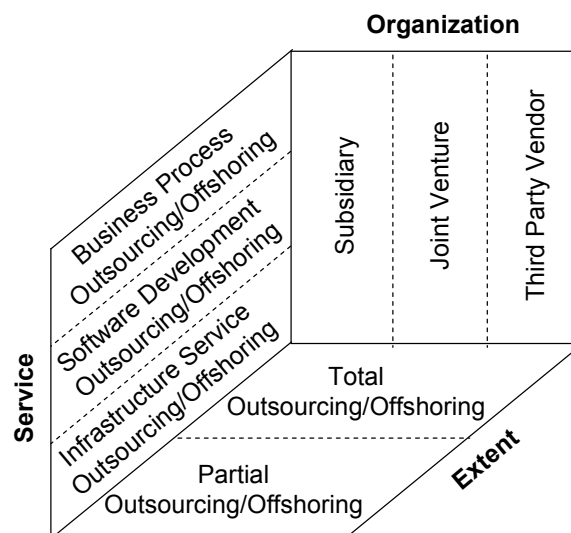
Source: Schaaf (2004)

Figure 2: Types of IT outsourcing/offshoring

According to Schaaf (2004), IT offshoring refers to the relocation of IT activities and processes to foreign countries, mainly low-wage countries. The different types of IT offshoring are illustrated in the right column of the matrix presented in Figure 2. In many cases, offshoring projects are performed by external service providers (“*offshore outsourcing*”). However, in some instances, offshoring services can also be rendered by subsidiaries, joint ventures or strategic alliances (“*captive offshore outsourcing*”).

The paper at hand follows Schaaf's (2004) definition of IT offshoring. Consequently, a subsidiary or joint venture is considered an option for the performance of the outsourced IT services. In addition, depending on the distance between the origin and destination country, IT offshoring can be categorized into offshoring and nearshoring. From the perspective of a German company, countries such as India, China or other similarly distant regions are regarded as offshore countries (Mayer and Söbbing, 2004), whereas potential nearshore countries include the Czech Republic, Poland, the Baltic States, or Romania, again observed from a German point of view (Prehl, 2005).

In practice, several different modifications of IT outsourcing or offshoring have emerged. This development can primarily be traced back to the wide array of different requirements companies pose during an outsourcing project. In order to create a consistent understanding of the relevant terms in the field of IT outsourcing on the one hand, while drawing a clear line between the different kinds of concepts on the other hand, Amberg and Wiener (2004) distinguish between three dimensions of outsourcing forms (see Figure 3).



Source: Amberg und Wiener (2004)

Figure 3: IT outsourcing dimensions and forms

- **Service dimension:** The associated forms focus on the most critical question within the individual outsourcing project (*Which services shall be outsourced?*).
- **Extent dimension:** The associated forms reflect the degree to which IT services are being outsourced (*To what extent shall the selected services be outsourced?*).
- **Organization dimension:** The associated forms describe alternate structures for the implementation of an outsourcing project (*How shall the selected services be outsourced?*).

With regard to the service dimension, **OSD** represents one specific form of IT offshoring, and primarily encompasses the offshoring of application development. In this context, both web-based and e-business applications have appeared on the radar in recent years.

Mani and Rajkumar (2001) define OSD as follows: “*Outsourcing of the application initiative for new applications development, enhancement or maintenance of existing applications is called applications outsourcing. Offshore development of software occurs when the supplier is from a different country than the company outsourcing its development.*” (p. 63)

Gopalakrishnan et al. (1996) go a step further and take into account the characteristic division of work within an offshore development project: “...*[offshore software] development is done predominantly at offshore development centers, with a small team being stationed at the customer’s site (“onsite”). The offshore team typically handles most of the coding and unit testing, while the onsite team’s responsibility primarily consists of customer interfacing, integration and system testing.*” (p. 392)

1.2 History

According to Dibbern et al. (2004), the outsourcing of information systems initially consisted of an external vendor providing a single basic function to the customer. This could for instance include the operational control over the customer’s technology assets, primarily a data center.

In 1963, **IT outsourcing** began to evolve when Blue Cross of Pennsylvania turned over their data processing services and IS employees to Electronic Data Systems (EDS) in a pioneering agreement which marked the first time a large company handed over their complete data processing department to a third party.

Despite constant growth in the 1970s, most notably due to standardized software packages and a lack of qualified IT staff, IT outsourcing did not receive real acceptance until the mid 1980s, when EDS signed contracts with Continental Airlines, First City Bank and Enron. All three of these deals agreements were financially motivated, as EDS took an equity position in its client and paid for certain software products which it thought could be expanded and used to allure new clients.

According to Dibbern et al. (2004), IT outsourcing ultimately stepped into the limelight in 1989 when Eastman Kodak engaged in a strategic alliance with IBM, Digital Equipment Corporation and Businessland. This signaled the arrival of the IT outsourcing mega deal, legitimizing outsourcing in the process. Although a number of outsourcing deals had been concluded in the years prior to the Kodak deal, none of them generated as much interest as this

particular strategic alliance did. In consequence, well known companies worldwide soon followed in the footsteps of Kodak, indicating the global rise of outsourcing. This newborn trend towards outsourcing was further supported by the concept of core competencies, publicized by Hamel and Prahalad in the early 1990s. The idea of a company focusing solely on its core competencies simultaneously implicated that corporate functions outside the limits of these competencies were regarded as less important and therefore analyzed in terms of their suitability for outsourcing (Schwarz, 2005). In consequence, many internal IT functions, which were viewed by managers as a necessity rather than a tool for gaining a competitive edge, became top candidates for outsourcing arrangements. Managers were less concerned about the technical details of the IT infrastructure than with the final outcome of their IT investments and its impact on the organization's efficiency and effectiveness (Sparrow, 2003). The concept of outsourcing IT activities began to prosper.

IT outsourcing has left the traditional one vendor – one client structure behind and evolved to complex arrangements integrating multiple vendors and clients. Dibbern et al. (2004) describe the present role of IT outsourcing as follows: *“Outsourcing now embraces significant partnerships and alliances (...) where client and vendor share risk and reward. The deals have moved beyond simple cost-savings to include value-based outsourcing, equity-based outsourcing, eBusiness outsourcing and business process outsourcing...Creativity in deal making abounds.”* (p. 8)

IT offshoring first started to make waves in the 1980s as several companies began to relocate their IT activities to foreign, mainly low-wage countries. In the mid 1990s, this process evolved significantly, most notably due to both the significant differences in labor costs (e. g., Schaaf, 2004) and a lack of qualified staff in the booming IT industry (e. g., BITKOM, 2005).

In the U.S., primarily labor-intensive aspects of software development were initially outsourced to nearby countries like Mexico or Canada. Soon thereafter, countries such as Ireland, Israel or India emerged as attractive destination countries for IT offshoring, as the costs for qualified IT personnel were low and the working language was English (Arora and Gambardella, 2004). At present, India occupies more than 450.000 employees within the IT sector, boasting an annual growth rate of 30 to 40 percent in the country's IT industry (BITKOM, 2005).

Regarding the total amount of investments in offshoring services, Germany is momentarily about three years behind the United States (Buchta et al., 2004). Although several German companies have engaged in IT offshoring for quite some time, the concept never really made waves within the nation's economy (BITKOM, 2005). One reason for this was the country's decision to fight the lack of qualified IT staff by granting green cards to IT experts from foreign countries in the 1990s, rather than considering IT offshoring. Since then, however, things

have changed, as IT processes have constantly become more standardized. As a result, a company's competencies in the field of IT are not necessarily seen as a tool for gaining an edge over the competition any more, and have therefore more than ever become subject to IT offshoring deals (BITKOM, 2005).

Similar to the evolution of IT offshoring, **OSD** began to catch on in the late 1990s (Adelakun and Jennex, 2003). According to Mani and Rajkumar (2001), the "Y2K"-problem as well as the conversion of systems to accommodate the European change in currency to the Euro have stressed the organizations' ability to keep up with necessary development. This, in turn, has led to the outsourcing of more development projects to offshore developers. Furthermore, the increase in offshore development as well as significant advances in telecommunications technology has increased the ability of companies in low wage countries to provide the requested development services. Currently, the high demand for e-business and web-based solutions is primarily responsible for keeping the OSD trend afloat (Mani and Rajkumar, 2001).

1.3 Theoretical Foundations

The field of **IT outsourcing in a broad sense** can be traced back to numerous theoretical foundations, all of which may prove to be useful when identifying which IT activities shall be outsourced and determining how the outsourcing arrangement shall be coordinated and managed most efficiently. In the process of compiling these reference theories in their research, Dibbern et al. (2004) adapted the structuring approach of Kim and Lee (1999), hereby combining the different theories into three distinct categories.

- **Economic theories** concentrate on the coordination and regulation of economic agents or units in regard to their transactions with one another. Reference theories in this context include the agency theory and the popular transaction cost theory.
- **Social theories** focus on the different types of relationships that exist between individuals, groups and organizations, thereby encompassing theoretical foundations such as power and politics theories, relationship theories, and the social exchange theory.
- **Strategic theories** deal with a company's approach to developing and implementing strategies and include the resource-based theory, the resource dependency theory as well as strategic management theories.

Table 1 gives an overview of the individual theories, thereby pointing out their basic assumptions, specific focus and supporting literature.

	Theoretical Concept	Level of Analysis	Basic Assumptions	Main Variables	Key Authors
Economic Theories	Agency Theory	Organizational	Asymmetry of information, differences in perceptions of risk, uncertainty	Agent costs, optimal contractual relationships	Jensen and Meckling (1976)
	Transaction Cost Theory	Transaction	Limited rationality, opportunism	Transaction costs, production costs	Coase (1937), Williamson (1975, 1981, 1985)
Social Theories	Power and Politics Theories	Individual, organizational	Power, idiosyncratic interests, and politics play major roles in organizational decision-making	Different degrees of power, organizational politics	Pfeffer (1981, 1982), Markus (1983)
	Relationship Theories	Organizational	Parties in the relationship assume that the outcome of a relationship is greater than achieved by individual parties separately	Cooperation, interactions, social and economic exchanges	Kern (1997), Klepper (1995)
	Social Exchange Theory	Individual, organizational	Participation in exchange occurs with the assumption of rewards and obligation to return rewards	Exchange of activities, benefits/costs, reciprocity, balance, cohesion, and power in exchanges	Blau (1964), Emerson (1972), Homans (1961)
Strategic Theories	Resource Theories	Organizational	A firm is a collection of resources, and resources are central to a firm's strategy	Internal resources, resources in the task environment	Barney (1991), Penrose (1959), Pfeffer and Salancik (1978), Thompson (1967)
	Strategic Management Theories	Organizational	Firms have long-term goals, and they plan and allocate resources to achieve these goals	Strategic advantage, strategies, choice of individuals	Chandler (1962), Miles and Snow (1978), Porter (1985), Quinn (1980)

Table 1: Overview of Theoretical Foundations (Dibbern et al., 2004)

The theoretical concepts mentioned above will each be briefly introduced in the following.

1.3.1 Agency Theory

According to Dibbern et al. (2004), both the Agency Theory and the Transaction Cost Theory represent economic theories. Agency theory is based on the concept that a company represents a conjunction of contracts between principals or stakeholders and agents.

The basic assumption of agency theory is the existence of asymmetric information and a different degree of risk perception between principal and agent as well as uncertainty. Here, the basic line of reasoning suggests that the principal hands over specific decision rights to the agent and, at the same time, sets incentives in order to ensure that the agent's actions are in line with the principal's interest. In this context, the dimension of such incentives depends significantly on the anticipated costs of controlling the agent (Dibbern et al., 2004). An example of agency theory used in the field of IT outsourcing is given by Hackney and Hancox (1999, p. 5), who suggest: "...the focus of AT [agency theory] is not the decision to source via the hierarchy or via the market (...) AT in short, helps to expose problems of divergent interests within both markets and hierarchies." However, in response, Dibbern et al. (2004) point out the lack of attention attributed to the potential for adverse outcomes, as a result of wrong decisions.

1.3.2 Transaction Cost Theory

When deciding which IT activities shall be outsourced, Transaction Cost Theory, introduced by Coase (1937), is among the most frequently mentioned theoretical foundations. Primarily developed by Williamson (1975, 1981, 1985), the theory, also referred to as Transaction Cost Economics, suggests that, as a result of a costly market, economic efficiency can only be achieved by means of a comparative analysis of production and transaction costs. Further, the theory assumes both limited rationality and opportunistic behavior from all the relevant parties (Simon, 1957). In consequence, the parties cunningly take advantage of opportunities at the expense of others (Williamson, 1981). Here, however, it must be noted that the negative consequences of opportunistic behavior are more likely to develop in market coordination than within a company, as there, they can be prevented by hierarchy structures.

In a more detailed fashion, Schwarz (2005) projects the four types of transaction costs onto the field of IT outsourcing:

- **Search costs:** For identifying and evaluating potential partners.
- **Contract costs:** Associated with the negotiation and writing of an agreement with the outsourcing provider.

- **Monitoring costs:** Ensure that all parties fulfill their contractual obligations.
- **Modification costs:** Resulting from either changes in performance on the part of the provider or changes in regard to external conditions.

Transaction theory has often been used for research in the field of IS in an attempt to explain the impact of IT on the boundaries of a company (Huang and Yang, 2000). According to Bryson and Ngwenyama (1999), it provides a set of principles for analyzing buyer-supplier transactions and identifying the most efficient way of structuring and managing them. This idea, when projected on the field of IT outsourcing could, for instance, reflect the transactions between the outsourcing company and the provider.

1.3.3 Power and Politics Theories

Power and Politics Theories represent an example of the social theories examined by Dibbern et al. (2004). As opposed to Emerson's perception of power in regard to individuals in a social exchange, Pfeffer (1981) assumes that power as well as idiosyncratic interests and politics take on major roles in an organization's decision-making process. In this context, power is often defined as the basic energy to initiate and sustain actions, in order to translate intentions into reality (Dibbern et al., 2004).

According to de Looff (1997), power and politics can influence a decision-making process in the field of IT outsourcing in three different ways:

1. In the decision process itself.
2. In the examination of the expected distribution of power.
3. In the design and management of the outsourcing agreement.

During the actual decision-making process, decision makers may embrace other objectives than the best interest of their department or organization, and therefore turn to rely on other tactics aside from plain arguments or research results. In this context, Hirschheim and Lacity (1993) found that some IT managers used political tactics, such as the requesting of bids from expensive suppliers, to underline the efficiency of their department towards top management. In addition, Hirschheim and Lacity (1993) identified some IT department as the least powerful departments in their respective organizations with the IT manager ranking up to three levels below the company's CEO. Senior managers often label IT functions as cost burdens and regard them as value-consuming. Their perceptions combined with the lack of power on the part of the IT departments many a time results in restrictive IT investments (de Looff, 1997).

De Looff (1997) further emphasizes the need for decision makers to analyze the expected distribution of power between the client organization and possible suppliers when considering outsourcing, as a perceived unbalanced distribution may represent a key argument for not engaging in outsourcing activities. One particular source of power on the part of the client organization in this context could be the client's decision regarding which IT activities to award to a specific supplier or whether or not to offer follow-up contracts.

In regard to existing IT outsourcing relationships, de Looff (1997) dwells on the need for the client organization to ensure a constant balance of power between themselves and their supplier. In an attempt to design such a relationship, the client may, for instance, split the project into phases, only awarding the first phase to the supplier, or postpone a percentage of the payments for a development project until the system has proven to be error-free.

1.3.4 Relationship Theories

Closely related to the Social Exchange Theory, yet more complex and tangible, relationship theories regard cooperation, interactions as well as social and economic exchanges as pivotal factors in interorganizational relationships. Due to their focus on the interactions between parties that are specifically geared towards the joint accomplishment of the individual party's objectives, relationship theories are often linked to strategic management or topics such as alliances, competitive advantages and supplier-buyer relationships (Dibbern et al., 2004). Klepper (1995) and Kern (1997) further point out that the parties to an exchange agree that the outcomes of the exchange are greater than those that could be achieved through alternate forms of exchange or from exchange with a different partner. This mutual agreement serves as a kind of motivation for the parties to consider the relationship important, hereby offering to devote resources towards its maintenance and development (Dibbern et al., 2004).

1.3.5 Social Exchange Theory

Social exchange Theory, according to Homans (1961), centers on the exchange of activities between two or more people. In this context, the relevant activities may be tangible or intangible as well as rewarding or costly.

Blau (1964) defines social exchange as: "*voluntary actions of individuals that are motivated by the returns they are expected to bring and typically do in fact bring from others*" (p. 91). Based on Emerson's (1972) research, the attributes reciprocity, balance, cohesion and power are pivotal in an exchange. While reciprocating the benefits received helps to reinforce the attributes of an exchange, balance refers to the individual degree of dependence the actors possess over their counterparts in the exchange. Further, cohesion takes place when one or

both actors in the exchange encounter conflict in regard to the exchange (Dibbern et al., 2004). Finally, Emerson (1972) defines power as the level of cost one actor can bring about over the other.

1.3.6 Resource Theories

In regard to strategic theories, Dibbern et al. (2004) examine resource theories as well as strategic management theories. Resource theories can be either resource-based or resource-dependent. Both of them view a firm's resources as the sole foundation for the implementation of the company's strategy. While resource-based theory emphasizes a firm's internal resources, resource-dependency theory focuses on various resources in the company's external environment. In regard to resource-based theory, Barney (1991) and Penrose (1959) argue that a firm can only gain competitive advantage if heterogeneity and immobility of the firm's resources exists. In contrast, from a resource-dependant perspective, Pfeffer and Salancik (1978) point out that all organizations are, in varying degrees, dependant on at least some of the elements of their specific external environments, due to the control these environments have on their resources.

1.3.7 Strategic Management Theories

Theories explaining the strategic activities of a particular company are referred to as strategic management theories. While numerous definitions of strategy can be found in literature, Chandler (1962) defines strategy as the determinant of the basic long-term goals of an enterprise, and the adoption of courses of action and the allocation of resources necessary for carrying out these goals. A well known example for strategic management theory is Porter's (1985) theory of Strategic Advantage, in particular his Five Forces Model.

1.4 Project Lifecycle

The following section aims to give an overview of several distinct approaches in regard to the structure of an **IT outsourcing** project. In general, this structure is referred to as the project lifecycle.

In their research on the lifecycle of IT outsourcing projects, Dibbern et al. (2004) base their results upon Simon's general model of decision-making, originally published in 1960. According to Simon (1960), four major stages exist within a decision-making process: Intelligence, design, choice and implementation. Dibbern et al. (2004) adapt this model to the field of IT outsourcing by developing a framework that parallels the decision-making process an

organization presumably goes through when evaluating its outsourcing options. This particular framework contains five stages which can be broken down into two distinct phases. While the first phase, entitled “Decision Process” focuses on the questions “*Why* shall the organization outsource?”, “*What* outsourcing arrangements are appropriate?” and “*Which* of the identified arrangements shall be implemented?”, phase two, termed “Implementation”, deals with the problem of “*How* shall the organization implement the outsourcing arrangement?” as well as the “Outcome of the outsourcing arrangement”. Further, Dibbern et al. (2004) expand each phase’s pivotal stages to include the activities and tasks that organizations go through as they progress their outsourcing evaluation.

In contrast, Brown and Scott (2005) divide their particular outsourcing process into six distinct phases: The *strategy phase* focuses on the outsourcing decision itself, determining the feasibility of outsourcing, defining objectives and estimating the total effort in terms of time, budget and necessary resources. In following, the *scope phase* revolves around the selection of an appropriate provider, hereby dealing with the specification of service levels on the part of the provider and the developing of a request for proposal (RFP). After collecting and analyzing responses from various providers, an adequate provider is finally chosen. Negotiations and agreements leading up to the ultimate signing of a contract between the two parties occur in the corresponding *negotiation phase*. In the following *implementation phase*, the actual transition from in-house provision of services to outsourcing takes place. Aside from planning the transition, budgeting and forecasting must be carried out before the project can be successfully launched. The fifth phase in Brown and Scott’s (2005) outsourcing process is referred to as the *management phase* and centers on the coordination and management of the outsourcing relationship with the provider. This includes the monitoring of performance as well as the negotiation and implementation of any changes that may occur in the relationship. Finally, the *completion or termination phase* marks the end of the contract period. Here, the client company may either negotiate a further contract with the existing provider, terminate the relationship and align their outsourcing strategy with a new provider, or end the relationship with the provider and bring the outsourced function back inside the organization.

Cullen and Willcocks’ (2003) approach to determining the lifecycle of an IT outsourcing project is based upon eight building blocks, divided into three distinct phases. The *architect phase* represents the first four blocks (“Discard the Myths”, “Prepare the Strategies”, “Target the Services”, and “Design the Future”) and aims to create a comprehensive picture of the landscape surrounding the anticipated outsourcing arrangement. This process includes determining realistic benefit expectations, analyzing the client company’s competencies and strategic preferences, identifying the appropriate services for outsourcing, conducting a feasibility and impact analysis and examining various arrangement models in terms of service level agreements and price. Blocks five and six (“Select the Supplier(s)” and “Make the Transition”) make up the *engage phase* of the outsourcing lifecycle: After a thorough evaluation,

decision, and negotiation process, an outsourcing agreement is signed with the adequate provider and assets, knowledge and staff are transferred where applicable. Finally, the *govern phase* contains blocks seven and eight (“Manage the Project” and “Reconsider the Options”), thereby concluding the authors’ lifecycle for outsourcing projects. In this crucial phase, continuous audits and evaluations seek to optimize relationship management and bring forth satisfactory results. In addition, industry and market reviews focus on bringing about refreshed strategies, in an attempt to remain competitive and keep up with both internal and external changes (Cullen and Willcocks, 2003).

A relatively comprehensive project model is also suggested by Berger et al. (2004). Their determined lifecycle for IT outsourcing projects is built on four phases, each of which contains a set of pivotal steps: The *preparation phase* encompasses the analysis of the initial position before engaging in outsourcing activities, the evaluation of benefits and risks tied to an outsourcing arrangement as well as the establishment of specific goals and a detailed approach for reaching these goals. Next, the *initiation phase* focuses primarily on establishing a solid foundation for a future relationship with the appropriate provider. This includes defining service level agreements, evaluating the various providers, compiling the requirement specifications and finally, selecting an adequate partner. Following, the *implementation phase* ultimately tests the qualities of both client and provider. The successful transfer of the outsourced activities, assets and staff from the client to the provider, as well as the establishment of specialized project teams is essential for a stable long-term relationship. Finally, the *operational phase* rounds off the lifecycle and focuses primarily on the controlling and monitoring aspects of the outsourcing arrangement, change management, and the securing of stable daily operations on the part of both client and provider.

Similar to the Berger et al.’s (2004) lifecycle model, Söbbing (2002) divides the lifecycle of an IT outsourcing project into four main stages: Preliminary thoughts in regard to a suitable outsourcing strategy, planning, implementing and operating.

Based on the approaches introduced above as well as Porter’s (1985) value chain, Amberg and Wiener (2004) developed a lifecycle model for **IT offshoring** projects. Here, the authors divide the activities typically carried out within the lifecycle of such a project into two specific groups: Primary and supporting activities. Whereas the *primary activities* of an outsourcing project are normally carried out sequentially (e. g., Cullen and Willcocks, 2003), the *supporting activities* represent activities which cannot be attributed to only one particular phase of the project.

According to Amberg and Wiener (2006), the primary activities describe the sequential process of an IT offshoring project. Here, the typical activities which need to be executed can be broken down into four distinct phases: “Planning and Analysis”, “Decision”, “Negotia-

tion”, and “Implementation”. A classification of the various activities into the individual project phases can be seen in the figure below.

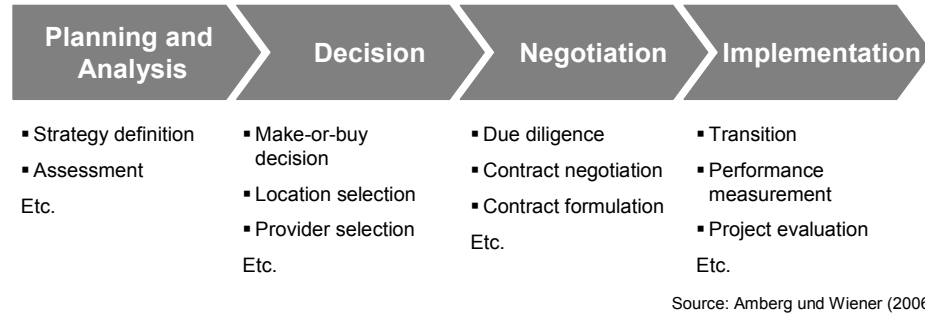


Figure 4: Primary activities

Alongside the already mentioned primary activities, according to Amberg and Wiener (2006), the project life cycle also encompasses a number of cross-phase activities which are referred to as supporting activities. As opposed to the primary activities, these supporting activities cannot be associated with one specific phase of the process model introduced above, but instead span multiple phases of the model (see Figure 5).



Figure 5: Supporting activities

With regard to **OSD**, the project lifecycle slightly differs from the generic lifecycles for IT outsourcing/offshoring projects introduced above. Therefore, two distinct approaches specific for OSD projects are introduced briefly in the following.

When examining the lifecycle of an OSD project, Laabs (2004) takes three different elements into account: *Programming phases* and *project phases* (each of which contains four

separate steps), as well as the *hands-on technical development phases*. While the programming phases of the offshore arrangement encompasses the steps “initiate”, “define”, “plan/design” and finally, “implement”, the project phases include the steps “strategize”, “evaluate”, “execute”, and “manage” the offshore project. Both the programming and the project related elements are performed internally by the company engaging in the offshore activities. Alongside these two domestic components, a more technical software development process takes place offshore, spanning the six steps “prototype support”, “detail design”, “construct/test”, “solution testing”, “support”, and “maintenance”.

In his comprehensive approach, Laabs (2004) continuously emphasizes the ratio of domestic software developers to offshore developers for each of the respective phases. In this context, it must be noted that the percentage of offshore resources is particularly high during the stages which relate to the development, testing and initial maintenance of the software.

According to Mayer and Söbbing (2004), OSD especially applies to the development, integration, implementation and maintenance of applications. Consequently, their approach focuses on the three pivotal phases *planning*, *implementation* and *integration*, as well as *maintenance and support*, all of which are constantly accompanied by project and quality management. The planning phase of the offshore development project deals primarily with the specific requirements the software needs to fulfill, and the selection of the appropriate software components. Next, the implementation and integration phase first concentrates on the design and architectural aspects of the software in regard to the determined requirements, and afterwards aims to successfully integrate the developed software into the existing onshore operations. Following a period of testing, the maintenance and support phase seeks to ensure a stable and high-quality software performance.

1.5 Market

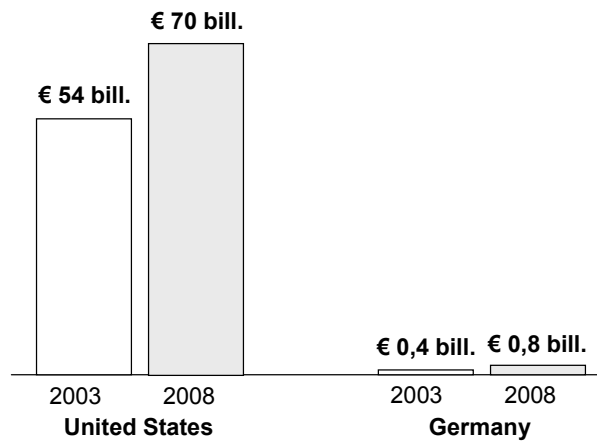
In Anglo-American countries, IT outsourcing as well as IT offshoring has already been established as a common business practice throughout the various industries. For example, in the United States, about 20 percent of companies’ total IT budgets is invested in low-wage countries, most notably India (Buchta et al., 2004).

From a European perspective, ever since the concept of **IT outsourcing** made waves in the 1990s, its popularity among both medium-sized enterprises and multinational companies has remained unbroken (Schwarz, 2005). Correspondingly, Allweyer et al. (2004) expects the European market volume for the outsourcing of IT services to increase significantly from 45 billion Euros in 2003 to approximately 100 billion Euros in 2008, with the UK and Germany accounting for nearly half of that figure. The global consulting firm Frost and Sullivan reach

out even further, predicting that total revenues for the European outsourcing market will grow to about 150 billion Euros in 2006 (Söbbing, 2002).

Although, Europe as a whole has embraced the various IT outsourcing arrangements as effective and sustainable business practices, non-English speaking countries such as Germany are still struggling to catch on. Particularly in the context of **IT offshoring**, structural, cultural, and linguistical issues complicate the cooperation of German companies with offshore providers. In consequence, according to Buchta et al. (2004), only one third of German companies which cooperated with an offshoring partner were able to realize cost savings surpassing the 30 percent mark, whereas half of all the international companies involved in IT offshoring projects were cutting costs by more than 30 percent. Possible reasons for this unbalanced statistic are:

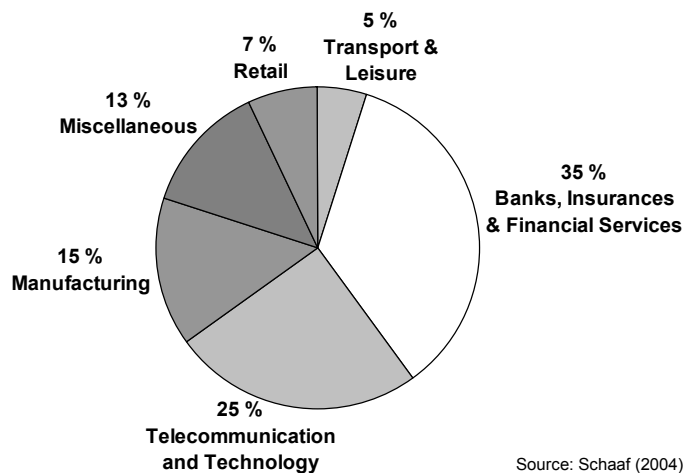
- **High vertical integration in German firms:** In German companies, internal IT departments often cover the complete range of services from software development to IT operations. Therefore, many a time, external service providers are only called upon sporadically, explaining the low outsourcing rate in Germany compared to the United States or the United Kingdom. As a result, German firms often lack experience in relocating and managing IT services over a larger geographical distance.
- **Small number of existing relationships with local IT service providers:** As a result of long lasting partnerships, German companies are often used to fast and direct communication processes with their IT service providers. While the small number of local service partners is familiar with the specific characteristics of their clients and, therefore, only need a general description of a specific project, offshore service providers require much more detailed project specifications. In consequence, the latter offshore approach would most likely lead to additional expenses.
- **Cultural and linguistical differences with Indian IT service providers:** A lot of German companies followed the Indian mainstream, resulting in additional problems due to cultural and linguistical differences, which US and UK companies do not have to fear, at least not to this extent. In Germany, the word offshoring tends to be used as a synonym for outsourcing to India. As a result, alternative offshoring destinations (e. g., in Eastern Europe) are often not even considered, while the many differences in culture and language continuously give way to substantial problems, thereby prohibiting a smooth cooperation between the project partners.



Source: Broß (2005)

Figure 6: Size of the German IT offshoring market

On a whole, when compared to the United States, the German market for IT offshoring has just recently begun to “crawl out” of its fledgling stages. Nevertheless, experts from Deutsche Bank Research see a significant amount of potential in the market (Broß, 2005), and project a doubling of the market size for Germany until 2008 (see Figure 6).



Source: Schaaf (2004)

Figure 7: IT offshoring market shares by German industries

Especially in the financial services sector (AT Kearney, 2003), and in the IT industry (Buchta et al., 2004; Allweyer et al., 2004), the offshoring of IT services is becoming more and more of an established business practice (see Figure 7). This is most notably due to the high degree of standardization and enormous cost pressure attributed to these particular industries (Allweyer et al., 2004). Furthermore, a similar trend to offshoring is already apparent in the German automotive industry (Boes and Schwemmler, 2004).

At present, in Germany, three major types of offshore providers can be distinguished. According to Buchta et al. (2004), these are:

- **Offshore subsidiaries, joint ventures or strategic alliances:** Especially large-scale enterprises have built or acquired IT subsidiaries in low-wage countries. Another possibility is to cooperate with IT service providers in these countries by means of joint ventures or strategic alliances. All three of these arrangements give companies the opportunity to embrace the various benefits offshoring has to offer (e. g., reduced labor costs, access to a highly qualified workforce, etc.), while simultaneously minimizing the risks associated with relocating IT projects abroad. An example is Munich-based Siemens which possesses IT subsidiaries in Hungary, India and other developing countries.
- **International IT service providers:** Companies like IBM, Accenture or EDS have already established offices in countries like India, hereby using their global network to perform IT services at the most suitable location. Due to their strong competitive position in global markets, these providers do not have to fear the competition of classical offshore providers.
- **Classical offshore IT service providers:** In order to strengthen their competitive position in Europe, offshore providers like NIIT Technologies have tried to enter the German service market. In this context, however, offshore providers realized that many German companies had significant difficulties with directly relocating their IT services to countries like India. As a result, numerous offshore providers established offices or acquired IT service providers in Germany (e. g., Mannheim-based AD Solutions was acquired by NIIT Technologies) in an attempt to penetrate the German market.

Against the background of a total cost savings potential of 2 billion euros per year in Germany (Buchta et al., 2004), offshore providers expect annual growth rates of more than 20 percent in the German market. Here, particularly the huge differences in labor costs between developed countries like Germany and developing countries like India, Russia etc., as well as the enormous potential of highly qualified IT workers in these countries, will fortify the IT offshoring trend in Germany. In this context, due to a cultural similarity and an adequate knowledge of the German language, especially IT service providers in Eastern European countries (e. g., Russia, Ukraine, Poland, Czech Republic) might be able to benefit from the growing trend to IT offshoring in Germany.

In regard to the type of activities selected for an offshoring arrangement, Eichelmann et al.'s (2004) research confirms that representatives of European companies consider the full range of IT services, from front office to back office, as suitable for offshoring. While back

office services such as finance, accounting, IT support and human resources are already involved in about 60 percent of all current or planned offshoring projects, one third of the European companies interviewed also mentioned front office services as potential offshoring candidates. This, however, is in many cases not feasible for German companies, due to the language barrier.

Schaaf (2004) bases his research on the perspective of a German bank and thereby finds the following IT activities and processes to be particularly affected by IT offshoring initiatives (listed in the order of their offshoring likeliness¹): Application development, coding, application maintenance, help desk, call center, IT infrastructure, data center, network management, etc. Here, it should be noted that this list of potential offshoring activities is representative rather than comprehensive. In addition, the order of the activities may differ, depending on the specific company and industry.

In line with Schaaf's (2004) ranking of offshore activities, Broß (2004) found that **OSD**, primarily in the form of application development and maintenance, currently accounts for the most significant part of the German IT offshoring market. In contrast to other IT offshoring markets, IT services such as call center and data center operation only make up a small part of the German market.

1.6 Benefits

In the style of Amberg and Wiener (2006), the benefits of **IT outsourcing** can be classified into the following three categories:

- **Financial benefits:** Reduction of IT costs, improved cost transparency, conversion of fixed costs, reduced capital lockup, etc.
- **Qualitative benefits:** Improved service quality, improvement of business processes, guaranteed service levels, access to technical know how, etc.
- **Strategical benefits:** Improved flexibility, focus on core competencies, restructuring of the corporate organization, insight on innovative technologies, transfer of risks, reduction of the time-to-market, etc.

With regard to **IT offshoring**, the reduction of IT costs is probably the most attractive benefit. Consequently, the reasons why companies relocate their internal IT services to low

¹ Services more likely to be offshored rank first.

wage countries are often cost driven (Böhm, 2003). The cost advantage of foreign service providers primarily results from the lower labor costs in their countries (see Figure 8).

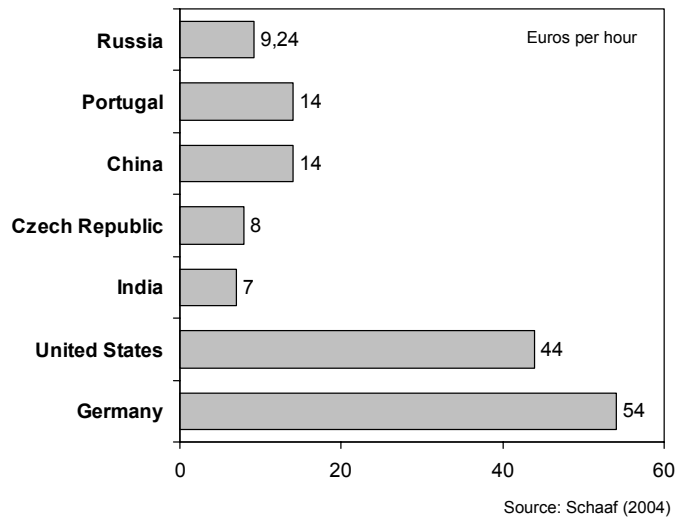


Figure 8: Labor costs in different countries

Although, the access to specialized knowledge and IT know-how also plays an important role when deciding on a particular offshoring arrangement, the cutting of operational costs is still the most emphasized benefit within companies engaging in offshore activities. In consequence, a clear business trend towards relocating labor-intensive services to low wage countries can be observed (Mayer and Söbbing, 2004). Here, despite additional costs for provider selection, contract management, and project planning, costs can be cut by around 30 percent in the long term, when turning IT projects over to low wage countries (TransCrit, 2004).

Aside from cost reduction, by implementing an **OSD** project, many companies aim at reducing the time-to-market of a software product (Fischer and Schumacher, 2004). Depending on the location of the selected project partners, the different time zones can enable both domestic and foreign programmers to work on the development project for up to 18 hours daily. Albert and Thondavadi (2004) refer to this particular arrangement as a so called “follow the sun” development. Especially, when developing software for products with short product life-cycles (e. g., mobile phones), this can help gain a significant competitive edge over rival companies (Rack, 2001).

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