

## *Chapter 8*

### **PUBLIC-PRIVATE PARTNERSHIPS AS AN ELEMENT OF PUBLIC PROCUREMENT REFORM IN GERMANY**

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#### **INTRODUCTION**

Hybrid partnerships are well established in the private sector combining market efficiency with the possibility of hierarchical steering mechanisms. By implementing Public Private Partnerships (PPPs) public authorities seek to benefit from cooperation with specialized suppliers. However, many complex factors - including legal regulations - have to be considered regarding outsourcing activities in the public sector. The decision on public private cooperation is not only driven by economic principles. This paper deals with the economic and legal decision process of PPPs. The theoretical and legal framework is then applied and illustrated through a case study of the German Aerospace Center (Deutsches Zentrum für Luft- und Raumfahrt e.V./DLR).

#### **LITERATURE REVIEW**

##### **New Public Management: A Comprehensive Reform of Public Authorities**

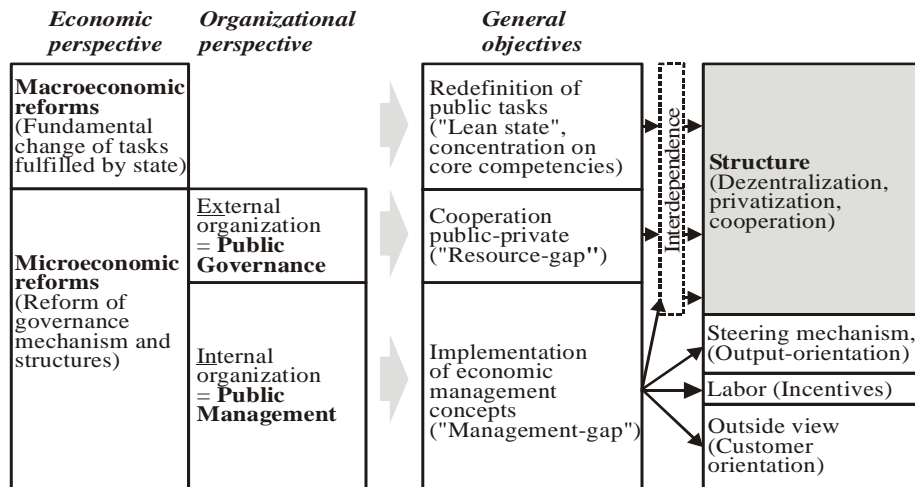
“New Public Management” is the label for a paradigm shift in public administration applied to a set of innovative reforms. Inherent lack of effectiveness and efficiency of traditional bureaucracy makes a modern management model necessary. New Public Management has its origin in the established business administration concepts of private sector institutions. And – as a consequence – new concepts are overcoming the inefficient allocation of resources in public authorities and the production of (public) goods and services (Budaeus, 1998; Loeffler, 2003). Public authorities suffer from financial crisis, in fact a more symptomatic consequence due to weakness of functional and structural organization. Decreasing tax revenues expose these deficits, unlike the sufficient growth of the gross domestic

product a few years ago which concealed these deficits (Schedler & Proeller, 2003). New Public Management therefore attempts to profit from developments in the private sector. Some keywords are decentralization, concentration on core competencies (Prahalad & Hamel, 1990), outsourcing, and finally supply chain management as a portfolio of vertical arm's length and closer relationships between supplier and buyer (Loeffler, 2003). Major perspectives of New Public Management are on the macro- and microeconomic level as follows (Figure 1; Hammerschmid, 2001).

Macroeconomic considerations result in a basic change in the comprehension of tasks to be fulfilled ("produced") by the public sector ("state") itself. Like private sector institutions public authorities need to concentrate on core competencies (e.g. interior and exterior safety) with elimination of non-efficient operations ("lean state") (Kyrer, 2001). Further tasks beneath core competencies should only be vertically integrated if accompanied by economic advantage (transaction cost discussion; Coase, 1937; Coase, 1960; Coase, 1988).

At first, microeconomic reforms relate to the internal organization of public authorities, meaning deficits in bureaucracy governance towards an implementation of modern management concepts and tools (Public Management). In Germany these new paradigms are known as "Neues Steuerungsmodell," developed by an association of local authorities named "Kommunale Gemeinschaftsstelle für Verwaltungsvereinfachung" (local authorities association for simplifying public administration; KGST). As many activities of "modern government" failed, a more fundamental strategic approach is needed (Savas, 1987). The existing "management gap" means striving for efficiency in the face of unresponsive bureaucracies. Performance management (output-orientation) replaces former input-oriented steering mechanism, labor incentives go along with enhanced output quality, a new outside view provides more citizen- ("customer"-) orientation. Second, the external reform of public organizations is an intersection to basic strategies of the macroeconomic view. Concentration on core competencies is associated with questions of outsourcing former public responsibilities. As a result, basic changes towards a lean state also influence public organizations in their external environment. Public managers operating in this environment are introducing managed competition and are contracting with the private sector to deliver public goods and services more efficiently and effectively (Savas, 2000; Hammerschmid, 2001). Simple contracting is only one point of a continuum between market and hierarchy (vertical integration). Dependent on the outsourcing object and its specific situation more cooperative forms of public-private co-work might be needed (Public Governance).

**FIGURE 1**  
**Perspectives of New Public Management**



Sources: Adapted from Hammerschmid (2001, p. 51) and Budaeus (1994, p. 21).

**A New Approach of Public Authorities' Responsibilities**

Following Public Choice as theory which constitutes macroeconomic and microeconomic external reforms, politicians and bureaucrats may not only act in the public interest, but with their own self-interest in mind (Budaeus & Gruening, 1997; Loeffler, 2003). Therefore, public sector needs more market driven incentives (competition) and microeconomic control mechanisms instead of bureaucratic control (Bundesministerium für Wirtschaft und Arbeit, 2003; Harms & Reichard, 2003; Vogel & Stratmann, 2000). One of the main questions of New Public Management is concerned with optimal "public service manufacturing penetration". Which tasks have to be fulfilled by the state itself and which tasks should better be co-produced by private companies – that means be arranged by public, but be produced by private institutions. In case of outsourcing, the state is only responsible for steering goods and services delivery ("Gewährleistungsstaat"). The responsibility of the public institution, e.g. for energy supply, remains, but the institution that "produces" this energy can be in private hands (Budaeus, 2003; Bundesministerium für Wirtschaft und Arbeit, 2003).

Classifying goods and services, energy supply is one example of toll goods, characterized by joint consumption and the feasibility of exclusion. Toll goods (Savas, 1982; e.g. waste disposal) and rather pure individual

(private) goods (e.g. cars), characterized by individual consumption and feasibility of exclusion, can be provided by and handled over markets, as prices are taken for a single demand. But there are also goods and services, characterized by absence of feasibility of exclusion, they are either joint consumption (collective or genuine public goods, e.g. national defense) or individual consumption (common-pool goods). Genuine public goods pose a serious problem, as entrepreneurs are unwillingly producing these goods and services knowing no one could be forced to pay for it. From the point of opportunism, every individual has an incentive to act as “free rider”, using such goods without paying for them. Also not easy to count, outsourcing of genuine public goods with public authorities out of responsibility is just not possible (Borins & Gruening, 1998; Savas, 2000).

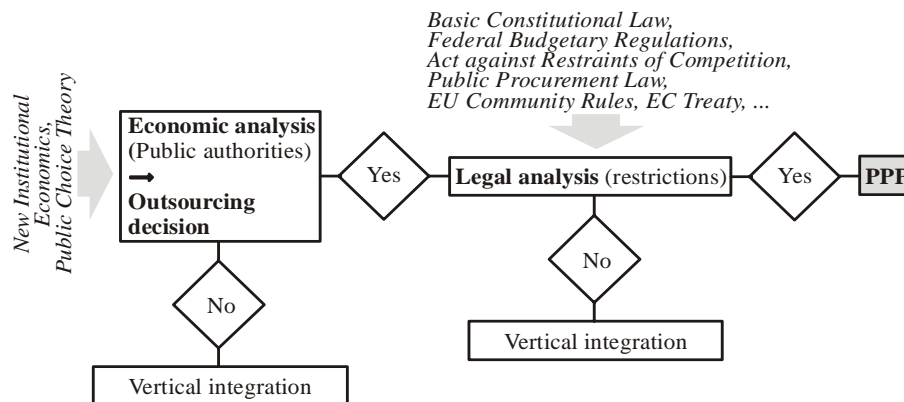
But a huge range of goods and services, previously provided by public authorities is suited well to be offered by private partners (Borins & Gruening, 1998; Savas, 2000). Keep in mind, apart from pure private goods, all public goods lack self-regulating mechanisms, due to their specific characteristics. Therefore public authorities need to be in an explicit active steering and monitoring position. Pure market solutions often fail, whereas cooperation in PPPs offers a closer relationship between market and traditional hierarchical governance (Budaeus & Gruening, 1997). The structure of public goods and services stays unaffected, as mostly exogenous determined by politics and law in a social welfare state (Schedler & Proeller, 2003). But development of PPPs goes along with a state moving from a role of direct operator to one of organizer, regulator and controller (of outputs produced by the private partner; Commission of the European Communities, 2004). Categories of responsibility including public-private co-work can be divided into responsibility for warranty (public), responsibility for financing (public or private) and responsibility for execution/production (private; Naschold et al., 2000; Schedler & Proeller, 2003). Public governance structures retain only the responsibility for steering public service production (done in private businesses).

### **Public-Private Partnerships: An Economic and Legal Determined Outsourcing-Process**

In the private sector the optimal level of in-house production has been a long discussed management issue regarding total cost of fulfillment (production and transaction cost; Williamson, 1985). Furthermore, public budgets suffer deficits due to falling tax revenues and increasing cost (Budaeus, 2003; Gottschalk, 1997). Looking at demographics and economic forecasts this situation will continue. Public sector needs to bring down its cost. Thus outsourcing decisions of public authorities are also cost driven decisions.

Through economic analysis as a first step (Figure 2), transaction and production cost of in-house production (“make”) are compared with external sourcing (“buy”) options. Transaction cost analysis leads to a recommendation in terms of the governance structure talking about market and hierarchies as two main alternatives (Williamson, 1979). A second step is required to follow. Unlike the private sector public authorities have to comply with a complex framework of legal regulations and laws. If both steps have a positive result, a PPP would be established. Step one (economic analysis) will be discussed in the following section; and step two (legal analysis) will be discussed subsequently.

**FIGURE 2**  
**Economic and Legal Analysis**



Definitions of PPPs are a critical point in literature, because they vary in a wide range. PPPs are one special form of mixed-economy (public-private) cooperation (Eichhorn, 1998). However, some authors include all forms of cooperative interaction between public and private institutions as PPPs. The term PPP thereby loses much contribution to an analyzing pattern. In this case all kind of buying from external would be treated as a relationship. Beginning with a broader definition, according to the US-based “National Council for Public-Private Partnerships”, a PPP is defined as “a contractual agreement between a public agency (federal, state or local) and a for-profit corporation. Through this agreement, the skills and assets of each sector (public and private) are shared in delivering a service or facility for the use of the general public. In addition to the sharing of resources, each party shares in the risks and rewards potential in the delivery of the service

and/or facility.” This definition describes the general purpose of a PPP. A more formalized definition will be developed after the following analysis.

### **Transaction Cost Analysis: Public-private Hybrids between Market and Hierarchy**

Outsourcing means concentration and additional importance of supplier management – as a consequence, the role of procurement grows within the institution. Many years, the procurement function has been unattended in its strategic importance in the private sector, too. Strategic public procurement and its attendance emerge very slowly. The structure of public goods offered is determined primarily by politics and cannot be changed quickly (e.g. the social system expenditures, effectiveness/“doing the right things”). Therefore public governance has to concentrate on efficiency (“doing things right”) of the whole public (procurement) system. Savings in production cost can be reached by economies of scale etc. in terms of bundling production quantities. This means sharing tasks with specialized suppliers. Limitations are set - according to Transaction Cost Theory - by increasing coordination efforts (Williamson, 1979) Transactions costs are “costs of drafting, negotiating, and safeguarding an agreement” (Williamson, 1985). A two-step-approach analyses the strategic importance of a potential outsourcing object, and second, specificity of an outsourcing object to identify transaction cost quantity (Picot, 1991).

Strategic importance and specificity may be interdependent, as many strategically important assets are also highly company-specific. But there may also be very specific parts of an end-product (e.g. bolts) which are very non-strategic (Picot, 1991). The strategic importance of public goods has to be defined clearly and precisely to go ahead with the public outsourcing process, since a lot of public tasks have been formerly kept in-house through “specious” arguments of strategic importance. Differences between private and public institutions come from their special aims. Private sector institutions seek to react properly to changes of the environment to save their strength and maximize their profits (economical determined objectives). Public authorities do not only react, they often create the (political) environment (welfare determined objectives). The question about strategic importance has to be discussed in the context of general political objectives.

A democratic decision-making process identifies general political objectives with significant relevance to a long-run development of commonwealth. Political programs are constituted by laws, budgetary decisions, and basically political objectives. These *policies* serve as framework for local public authorities. The *output* of these public agencies or public sector com-

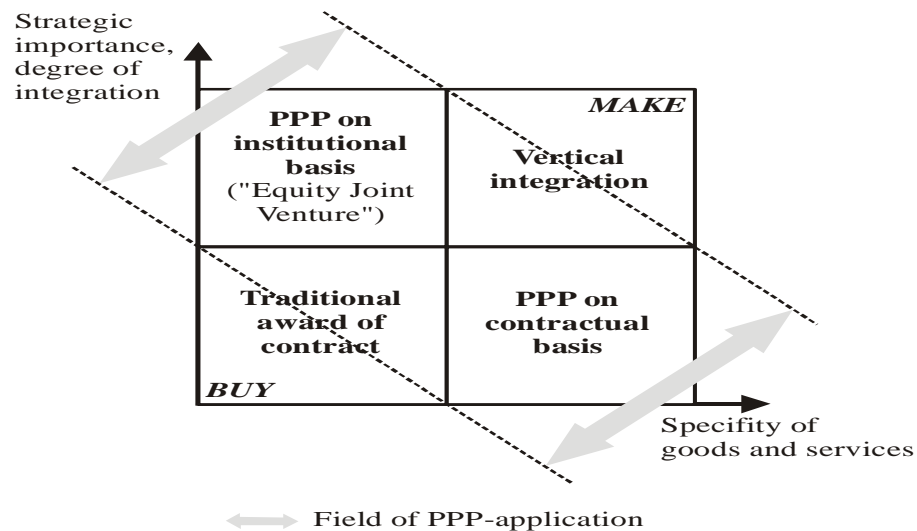
panies leads to an *impact* on citizens (as their reaction to the realization of upper policies). This impact may differ from primary intentions of politics. Altogether this stepped system produces an *outcome* as reaction to the whole system which shows the final consequences of politics and therefore is seen as strategic relevant. Public strategic objectives (or political for the highest level) are not only internal public authorities, rather external dependent on the level of political process. Strategic importance of tasks on different levels of the public system is directed to the requested outcome which has to be secured (responsibility of public authorities; Naschold et al., 2000; Schedler & Proeller, 2003). The responsibility to realize public strategic objectives is unconnected to institutions. If monitoring of compliance (as one core competence) of activities of the public value chain, done by private partners, is feasible, outsourcing will be an adequate instrument. Limitations are set, if risks arise that endanger the realization of defined strategic objectives (Naschold et al., 2000; Schedler & Proeller, 2003). For example, the German social welfare system cares for high-maintenance citizens with individual health support. This is a political strategic objective of a social welfare system with a real output of individual care. The output is financed by taxes paid by citizens as a whole - not the individual who uses the services, however almost everyone has to pay taxes to keep the system running. This situation is called a non-coherent exchange relationship (“Nichtschlüssige Tauschbeziehung”). If organized by private institutions, nobody wants to pay voluntarily for services taken by others. Nevertheless cooperation with private sector institutions is possible anyhow. In Germany, local health care services are provided by organizations like “Rotes Kreuz” (Red Cross). The impact of this system might be a dissatisfied young generation who has to finance the elderly one. To balance different interests through government intervention might be a strategically relevant outcome.

Specificity is one main factor responsible for differences among transaction (Williamson, 1985). With the behavioral assumptions of bounded rationality and opportunism, behavioral uncertainty takes on importance with the increase of specificity (Williamson, 1985). Specificity has relevance to the degree to which an asset or product can be redeployed to alternative uses and by alternative users without losing productive value (sunk cost; Williamson, 1991). Nonspecific relationships have little value of continuity (Williamson, 1985). However, specificity causes transaction parties to operate in an ex post bilateral dependency, and therefore poses added contracting hazards. Now, continuity matters, and specificity thereby increases the transaction cost of all forms of governance, but with comparative transaction cost advantages of market-, hybrid-, hierarchical coordination at different degrees of specificity (Coase, 1937; Williamson, 1991). Determi-

nants are crucial differences in adaptability, use of incentives and control instruments, whereas markets provide efficient price mechanism (incentives) contrarily hierarchies provide better control mechanism and adaptability (Williamson, 1991). Hybrid structures are in between strong market incentives and bureaucratic control of organizations. As specificity increases hybrid and hierarchical solutions are recommended (Picot, 1991). But to the extent that uncertainty decreases the benefits of internal organization declines (Williamson, 1985). Outsourcing of public tasks requires an effective governance structure considering categories of responsibility in public-private cooperation. Dependent on strategic relevance and degree of specificity, there are several forms of cooperative work (Figure 3). Specificity refers to citizens-related outputs as well as public administration's tasks.

As mentioned above, strategic importance and specificity is connected with core competencies of public authorities. Hence, strategic important tasks are highly integrated within public administration or public companies.

**FIGURE 3**  
**PPP-Portfolio**



Sources: Naschold et al. (2000, p. 76) and Commission of the European Communities (2004, p. 9).

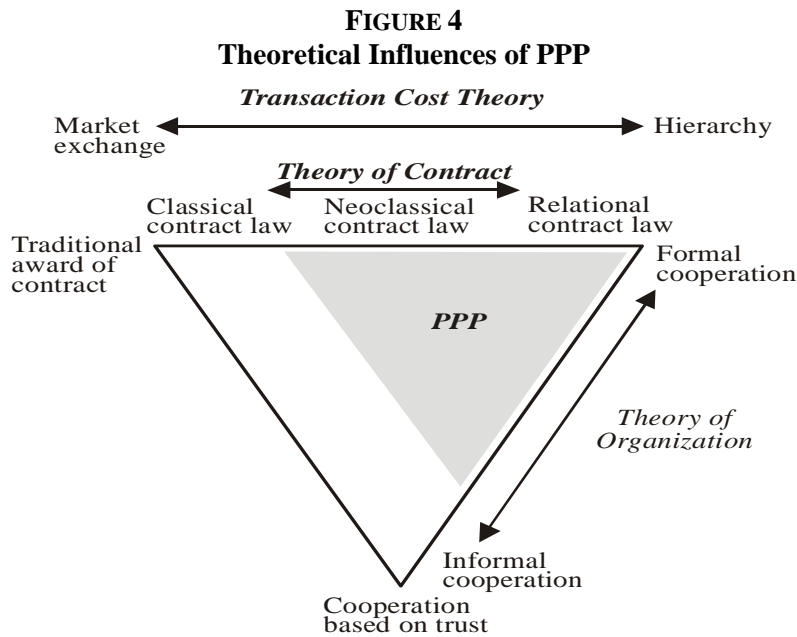
If specificity is as low as core competencies are not contemplated, public authorities set up a *public-private organization* (quasi-hierarchy) as a distinct entity. The investment must be large enough that the minority partner



enjoys a blocking minority (Eichhorn, 1998). This is the strongest form of PPPs, also with a high degree of formalization (closer definition of PPP with a high degree of formalization and a high degree of objective conformity (Budaeus, 2003; Figure 4). PPP resources are under governance of the new organization (Budaeus, 2003).

PPP on a *contractual basis* stands not unavoidably for pure market contracting. Market, hybrid, and (quasi-) hierarchy differ in respect to contract law (classical, neoclassical, relational contract law) (Williamson, 1991). A pure contractual basis will possibly also influence to a lesser degree of formalization which comes to a wider definition of PPP (also with a high degree of objective conformity, but a low degree of formalization) (Figure 4). Governance over joint resources remains on both sides (Budaeus, 2003).

For nonspecific goods and services market exchange and discrete contracting are sufficient. There is a low level of objective conformity respective a high level of objective conflict but also a high level of



Sources: Adapted from Budaeus, Gruening & Steenbock (1997, p. 45).

formalization, this form of cooperation is called contracting out (for more detail, see Budaeus & Gruening, 1997). This is the traditional award of contract of standardized almost nonspecific goods and services where public authorities define the standard of goods and services delivered and compen-

sate the producer for it (Budaeus & Gruening, 1997). The different forms of PPPs can be explained in an extensive framework of ‘new institutional economics’ (market exchange versus hierarchy) of Williamson (1979; 1985), Theory of Contract (Macneil, 1978), and the ‘theory of organizations’ as shown in Figure 4 (Budaeus, Gruening & Steenbock, 1997):

### **Legal Analysis**

The German system of public authorities is quite complex and results in a very sophisticated public procurement system. Public authorities are located on (a) the national (“Bund”, federation), (b) the federal state (“Laender”), and (c) the regional level (“Kommunen”, municipalities). Within each level, there are separate sub-levels to recognize. National as well as federal state and regional level authorities have to consider administrative and constitutional law, furthermore legal regulations on the European level in regard to the assignment of public tasks to private sector companies. There is no explicit general PPP-law in Germany, except a “Green Paper” of the Commission of the European Communities which discusses legal aspects of PPPs. This can only be regarded as a preliminary report of government proposals that is published in order to stimulate discussion without any commitment to action. But it delivers a very useful framework with laws, legal directives and guidelines that have to be applied in order to build PPPs.

Legitimations for mixed-economy institutions are basically set by “public purpose” expressed by public tasks. Limitations in respect to privatization of public tasks are set by constitutional law (Article 33 (4) Basic Constitutional Law, “exercise of sovereign authority ..., be entrusted to members of the public service who stand in a relationship of service and loyalty defined by public law.”). A general interdiction of privatization is actually not given by it. However, public authorities as executive authorities are obliged to use the principle of democracy, which means executing public tasks under monitoring and initiative of parliament – as strong hierarchical governance (Becker, 1997). If there are organizations under private law to be controlled in a sufficient manner to guarantee responsibility for output, mixed-economy organizations are a legitimate instrument for economizing public authorities (§ 65 (1) Federal Budgetary Regulations, “The Federation ... participate in an organization under private law ... only 1. ...if there is no alternative to fulfill a defined purpose more economically ... 2. ... governance must be feasible in a sufficient way, like a board of directors, or others ...” § 98, No. 4 Act against Restraints of Competition “with a dominant governance influence of public authorities”). Deciding to join a public-private organization, following step one of this analysis, is explicitly efficiency driven. However, also constitutional law postulates economic effi-

ciency (Article 114 (2) Basic Constitutional Law, "...whether public finances have been properly and efficiently administered ..."). Objectives of this kind are directed to the structure and processes of public authorities to apply resources the most efficient way. Taxes should be used for public tasks in terms of commonwealth (Becker, 1997).

The total range of public tasks and sovereign authority on national and federal state level are determined by *Basic Constitutional Law* (Article 30 – 37). Authorities on the national level are not allowed to undermine basic competences of the federal states (Article 30, *Basic Constitutional Law*, "the exercise of state powers and the discharge of state functions is a matter for the Laender."). Therefore an allocation of tasks can be found in Article 30 – 37 and for the national level in Article 87 a – f Basic Constitutional Law (e.g. "federal defense administration", Article 87b). In an outstanding way, municipalities can decide whether to work together with private partners as they have less sovereign authority tasks which must be kept in-house. (Article 28 (2) *Basic Constitutional Law*, "Municipalities must be guaranteed the right to regulate all local affairs on their own responsibility, within the limits prescribed by the laws"). Local affairs are e.g. waste management, water and energy supply. Limitations are set by individual Municipal Codes of the federal states (e.g. Municipal Code of the Bavarian federal state, Article 92 (1) Bavarian Municipal Code, "Mixed-economy participation are only permitted for (1) "public purposes" ... (2) with appropriate governance ... board of directors ... and 3. ... limited liability of the municipality ...", Article 87 Bavarian Municipal Code, "general legitimacy of private sector companies for public tasks and cooperation").

In the first part of this section we discussed legal problems at the stage of the outsourcing decision. If a public authority decides to an award a service fulfillment to a third party, it is bound to comply by the rules of public contracts (Figure 2). This takes place downstream of the economic and legal choice made by a local, regional or national authority. Every contractual or unilateral (public-private organization) cooperation must be examined in respect to the EC Treaty, especially principles of freedom of establishment and freedom to provide services (Article 43 EC Treaty, "restrictions on the freedom of establishment of nationals of a Member State in the territory of another Member State shall be prohibited.", Article 49 EC Treaty, "restrictions on freedom to provide services within the Community shall be prohibited ..."). Principles of transparency, equality of treatment, proportionality and mutual recognition are hereby included. These guidelines may help to avoid both, the risk of preference being given to local or national tenders when awarding a contract, and eliminate other than economic consideration (Commission of the European Communities, 2004). Devel-

oped in FIGURE 3, two different forms of PPPs need to be examined in procurement procedure: (a) Contractual partnerships as award designated as a “*public contract*” or “*concession*” and (b) partnerships involving the creation of a *joint organization* (Commission of the European Communities, 2004).

In Germany *public contracts* are regulated in §§ 97 – 101 Act against Restraints of Competition beginning with § 97, “general principles”, § 98, “contracting entities” which are divided in contracting bodies as regional or local authorities as well as their special funds, and second functional contracting bodies if their tasks are in the special interest of the state (e.g. hospitals). Legal regulations for a functional contracting body must only be applied if it exceeds distinct threshold values. “Public contracts”, § 99, are in detail: (1) “Supply contracts are contracts for the procurement of goods”, (2) “Works contracts are contracts either for the execution or the simultaneous design and execution of works or a work which is the result of civil engineering or building construction work” (3) “Service contracts are contracts for performances which are not covered by the other two subsections.” In Germany, the national procurement law is further divided into regulations (“*Verdingungsordnungen*,” contracting rules for award of public contracts) for these public contracts, deliveries and other services (VOL), constructions and buildings (VOB), and services provided by freelancers (VOF). Service contracts are covered by VOL/A and VOF. § 100 defines the “scope of application” and finally § 101 “categories of awards”. Guidelines for application of different categories/procedures of award are specific to regulations VOB, VOL and VOF. Unlike private sector organizations, public authorities and also public-private cooperation are forced to apply these guidelines, open procedures (“*oeffentliche Ausschreibung*”), restricted procedures (“*beschraenkte Ausschreibung*”) or negotiated procedures (“*freihaendige Vergabe*”), whereas open procedures are standard to contracts of regulation VOL and VOB. Procedures must be used in a hierarchical way, if one of them fails, beginning with open procedure.

The concept of *concession* is defined as a contract of the same type as a public contract except for the fact that the considerations for the works to be carried out or the services to be provided consist either solely in the right to exploit the construction, or in this together with payment (Commission of the European Communities, 2004). Less regulation is specific to concessions. The procedure of award is free to select, only the minimum guidelines of the EC Treaty must be guaranteed (Commission of the European Communities, 2004). Problems arise if a former concession being considered for tendering must in the end be redefined as public contract. The legality of the

choice of award procedures selected comes into question (Commission of the European Communities, 2004).

A *joint organization* can be put in place, either by founding jointly held organization or by the private sector taking control of an existing public undertaking. In sense of § 99 (1) Act against Restraints of Competition, a public contract implies supply activities which are not supposed searching for cooperative partners only. However, this would ignore Public Procurement Law, if the organization to establish aims to fulfil e.g. services originated to the public authority. Following current adjudication of the European Court of Justice, the phase of selection of private partners is already legally treated as public contract (Benken, 2004). Beside the discussion above, partnerships are special, as they require a particular fit of partners. Traditional procedures of awarding a contract are not suited to get to know each other. Interaction for open and restricted procedure is formally forbidden. Since the adoption of Directive 2004/18/EC, a new procedure known as “competitive dialog” may be applicable when awarding particularly complex contracts (Article 29 Directive 2004/18/EC). The competitive dialog is launched when a public authority is objectively unable to define the technical means that would best satisfy its need and objectives. This new procedure allows the contracting authorities to open a dialog with the candidates to find a solution meeting their needs. At the end of this process the candidates would be invited for the final tender. Similar to awarding a public contract or concession the highest efficiency shall be the decisive factor in the “competitive dialog,” not only the lowest price (§ 25, No. 3 VOL/A, by analogy see § 25, No. 3 (3) VOB/A and § 16 VOF). High requirements are set for transparency and equality of treatment. In choice of legal form of public-private organizations limited liability of public authorities have to be strongly taken into account. Therefore often the legal form ‘limited liability corporation’ (‘Ltd.’ in Germany “GmbH”) is established (Article 92 (1), No. 3, Bavarian Municipal Code).

## METHODS

Treating the public-private dyad as the unit of analysis, this exploratory study focuses on the public buyer’s perspective with a self-selected private supplier. We did necessarily target the highest level of procurement function in the public organization which plays a significant role in managing PPPs. The data for the single case study was collected in a personal interview. For the aim of this survey we chose a single case, as fundamental problems implementing a PPP in Germany should be identified and compared with economic as well as legal analysis above – to what extent legal regulations en-

hance or restrict public-private cooperation. With its complexity this case study is well suited to the findings above. An unadjusted absorption of business administration concepts from the private sector is not useful. However, it is beyond doubt that these concepts contribute to the reform of the public sector procurement. We prepared a questionnaire based on theoretical and conceptual considerations with different topics capturing different stages of PPP (PPP-planning, PPP-implementation): (1) field of PPP-application, (2) Outsourcing decision, responsibilities, governance structure and degree of formalization, (3) objectives of partners, (4) phases of implementation (preparing and decision phase, implementation phase, operating phase, termination phase).

The selection of investigated public organization is deliberately distinguished from German investigations on municipality level. There have already been a lot of case studies about cooperation in citizen related services on the local level. Questions were formulated in open form, primarily to serve as an interviewer guideline. Structuring the questionnaire (analyzing pattern) delivers the basis for further comparative investigations. The selected object of analysis is T-Systems SFR (Systems for Research) a joint organization of the German Aerospace Center (Deutsches Zentrum für Luft- und Raumfahrt e.V./ DLR) and T-System, subsidiary company of Deutsche Telekom AG for IT-services. DLR is member of the Helmholtz-Society, where all 15 so-called "Grossforschungseinrichtungen" (large scaled research institutes) in Germany are working together. This research institution is mainly financed by the German national government ("Bundesministerium für Bildung und Forschung," Federal Ministry of Education and Research), a typical public institution (see also § 98, 2 *Act against Restraints of Competition*, "functional contracting bodies").

## RESULTS

### Field of PPP-Application

DLR, its associated members and research institutes formerly provided all IT-services (information technology) themselves. There is a huge range from simple service support of individual desktop PCs, telecommunication and data networks up to highly specific supercomputers. Outsourcing object is the entire bundle of IT-services. All services are primarily related to DLR internal "customers".

### Outsourcing Decision, Responsibilities, Governance Structure and Degree of Formalization

Optimal manufacturing service penetration first considers strategic relevance of potential outsourcing object. IT-services only play a supporting role for DLR's strategic core competence in research activities. Second, transaction cost mainly refers to the degree of specificity. Service support of desktop PCs is roughly non-specific. Actually, problems of standard software are the same in all companies. Permanent availability transforms services to mixed specificity (customer specific). Furthermore supercomputers might be customized, and therefore are highly specific. These services must be offered in the headquarters in Cologne as well as in seven subsidiaries all over Germany. Transaction Cost Economics recommend hybrid governance structures for medium or high specificity, especially bilateral governance, respective relational contracts for recurrent frequency (Williamson, 1985). Regarding legal restriction (§ 7 "efficiency", § 65 Federal Budgetary Law) an essential condition must be an economic advantage of private co-work of public goods and services. Indeed DLR identified deficits in efficiency to also get legal arguments for an outsourcing decision. An analysis took place in 1996. A pure market governance would endanger the whole research organization if fulfillment could not be guaranteed by control of DLR. Research activities are strongly dependent on IT-services. Altogether, DLR decided to found a joint organization with T-Systems as a private partner.

### **Objectives of Partners**

The main objective of DLR has been to enhance efficiency using market driven mechanisms. In-house reforms (e.g. profit center) are often difficult and are based on old structures. Therefore, for a fundamental reform PPP is an adequate instrument. A new organization facilitates the use of the capacity of supercomputers by other research organizations, too – like the "Gesellschaft für Reaktorsicherheit" (Association for Reactor Safety) which has been joined with IT-personnel and assets. However, task sharing involves potential agency-problems regarding the objective of common welfare of public authorities and profit seeking private partners. As a result of principal-agent-problems, governance mechanisms have to be established (Bundesministerium für Wirtschaft und Arbeit, 2003; Budaeus, 2003; Budaeus, Gruening & Steenbock, 1997; Gottschalk, 1996). Beside profit seeking of the private partner, working for a research institution serves as a considerable reference for other contracts and orders.

## **Phases of Implementation**

### ***Preparing and Decision Phase***

Initiated by top management of DLR (“buy-decision”) and supported by a well-known consultancy, DLR started with an initial market analysis for IT services in 1997 all across Europe. An internal sourcing project group, consisting of the head of DLR’s IT-services, a lawyer for mergers and acquisitions, the chief financial officer (CFO), a deputy for all members and research institutes as customers, and finally the head of procurement of DLR, was constituted to specify the project. Additional several deputies of the human resources department joined as DLR planned to transition all IT employees over to the new organization. Safeguarding these former public employees in the same way (like in a public organization) in the new private organization, was one of the major challenges. Quick changes in IT hard- and software solutions make forecasts of best services solutions difficult.

As services are difficult to define, a negotiated procedure (called “Verhandlungsverfahren” for European-wide tendering) was applied (§ 3, No. 4h VOL/A, and § 5 VOF). Definitions were only based on functional level (e.g. time requirements a user helpdesk must be available or response time). Best solutions to fulfill these requirements had to come from the private bidders. Performance criteria to evaluate candidates were their previous experiences with PPPs as well as the potential of annual productivity growth rates of 25 percent. Regarding developments in IT hardware this is not utopian value. A contracting amount above the threshold value of 200.000 Euro (240.000 US\$) must be tendered Europe-wide (competition of bidder, Article 7 (1) Directive 1992/50/EC, “This directive has to be applied to public service contracts with an appreciated value of 200.000 Euro and more without added value tax.”). For an Europe-wide tendering process it must be announced in the EC Official Journal (Article 16 (2) and 17, “European-wide publication”). Negotiation afterwards took place with pre-selected potential partners (§ 4, No. 1 VOL/A, “Before launching ... a negotiation procedure, potential candidates must be ascertained ...”).

Additional requirements were set by the founding institution of DLR, the Federal Ministry of Education and Research. It postulated preceding analyses of fiscal effects, Budgetary Regulations restrictions, restrictions of the Act against Restraints of Competition and in particular the efficiency of the PPP solution. They also limited the duration of the PPP to three years. In the first quarter of 1998 DLR accepted the bid of DEBIS (a former subsidiary of DaimlerChrysler AG, now T-Systems).

### ***Implementation Phase***



The whole negotiation process lasted almost one year. Conflicts were escalated to the top management which forced compromises. Problems arose with the short period of three years – afterwards with a new tendering process – and the transfer of all IT employees of DLR to the PPP with all safeguards inherent to public organizations (e.g. layoff protection). Both aspects are not very common to private organizations. Specific investments had to amortize in this short period which might be problematic considering sunk cost. Second, guarantees to employees caused significant problems to DLR in the negotiation phase. Risk sharing aspects are an important process step for a successful conclusion. Feeling responsible for their employees DLR guaranteed all “DLR-PPP employees” to come back to DLR, if the PPP will be terminated with DEBIS in 2002 and be continued with another private partner (almost 100 employees). This could actually become a problem in the worst case. DLR also signed an acceptance duty as high as the former cost of IT-services caused in-house the DLR as minimum transaction value - in the first year after foundation 95 percent, in the second 90 percent, and finally in the third 85 percent.

DEBIS SFR has been founded by signing the contract in May 1999. DLR contributed additional resources (assets) to the PPP. A second contract followed in 2002, a third one will follow in 2005 with a period of five years after signing twice for three years. The period of five years was chosen, as the PPP stabilized and was working well. But this does not mean, that a new tendering process comes to the same private partner as result. The legal form of the PPP, from the beginning is a “limited liability corporation” with a 25,1 percent participation of DLR. This amount of participation is required due to a blocking minority in the board of directors of the PPP (responsibility for output). There is an inevitable risk depending on an external partner. Therefore, importance of influences grows. From a portfolio of different contracts, an animation contract (“Konsortialvertrag”) serves as formal framework of the cooperation. Every single service is regulated in individual service contracts (§1a , No. 3 VOL/A). It also includes penalties and criteria of services’ quality. On the operational level control activities proceed with one centralized and several decentralized IT-managers at all seven locations of DLR. In 2003 all shares of DEBIS have been devolved to T-Systems. Therefore the PPP was renamed in T-Systems SFR. The service contracts stayed untouched separate from the framework. Termination of cooperation is not intended by the transaction parties. But, if a new tender results in a quantity of more than 20 percent which have to be awarded to another private company, than the PPP should be terminated.

### *Operating Phase*

Initial problems in the operating phase are solved by learning processes. Additional to services for DLR, T-Systems SFR delivers IT-services to the Association for Reactor Safety. Improvements concerning economical consequences have been achieved by the implementation of exit scenarios, and the termination of guarantees to employees for the award of contract in 2005. In addition, the definition of services awarded has been improved. The first time, DLR based its definition on an historical grown IT-infrastructure which suffers inhomogeneity. Now, definitions are based on a consolidated homogenous IT-infrastructure which makes it much easier.

### ***Termination Phase***

The founding institution of DLR, the Federal Ministry of Education and Research also demands to leave the PPP within the next years. This comes into question after the following five-years which would be the period for the next (third) contract in 2005 as mentioned above. For this reason there are two possible exit models (real options; Trigeorgis, 1995). Either DLR sells its shares to the private partner (put-option) or buys the shares of the private partners for a subsequent total privatization (call-option), or DLR takes back all resources (assets), except employees that will stay with the private company (call- and put-option, compound real option).

## **CONCLUSION**

This study aims to compare conceptual and theoretical findings, especially a described PPP-decision process, with a special case in practice. Looking at the decision process at DLR, there was an economic demand for new solutions arising efficiency in the beginning. Founding a joint organization came along with considerations of strategic importance and specificity of IT-services. In this case strategic importance is more important than specificity, as responsibility of output must be guaranteed by public institutions. Overall, research activities are the core competence of DLR, and it might partially be seen as a genuine public good looking at basic research activities. These basic activities are often at such an early stage that economic success is not predictable and very uncertain, although it is causing high cost. Nevertheless, as a public institution, DLR provides these activities. Private research activities on the other hand are mostly based on concrete products. As a result, government and its associated organizations (such as DLR) are in a position to provide research activities in the common interest (“Gewährleistungsstaat”), where pure private institutions would fail, since everyone tries to act as a “freerider.” Strongly connected with its core competence, DLR must also secure its IT-services which are necessary

sub-services to support research activities. For that reason a strategic importance of IT-services evolves, and with low to medium and high specificity the requirement to choose a joint organization as PPP model. With only two major types of PPPs, we consolidated a lot of mostly empirical oriented PPP definitions (to be found in appropriate literature) which deliver low contribution to an economic and legal based analysis. In contrary these two types also sustain in practice, as they are consistent with legal regulations.

This case study is based on the national level. Hence, further investigations to close the gap should be based on regional and local level. An example on regional (“Laender”) respective federal state level could be PPP activities of outsourcing of police clothing production and administration to private organizations. Police uniforms have very high specificity and also special importance in order to be identified as a police officer. On local level there are several examples of cooperation between municipalities and private companies for energy supply, waste disposal, public baths, hospitals etc. At all levels there are some additional special laws to apply and particularly examples like police pose additional problems due to their sovereignty tasks. This would be an interesting matter to compare.

New developments in legal regulations lead to former unknown possibilities of public procurement. The question is whether Public Private Partnerships are the first step towards a complete restructuring of public services. Within EU public procurement regulations, there is now a new instrument called “competitive dialog” which allows the integration of suppliers at a very early stage of the purchasing procedure and as a result the implementation of supplier relationship concepts. And, taking into account that PPPs offer for the first time changes in the “role” of the public sector, the whole public value chain comes into new public management focus.

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