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Executive Report of the Research Project:

„Development of Standard Agreements for an Innovative Type
of Consortium between Medium Sized Construction and Design
Companies“

Research Partners:

Bauindustrieverband Niedersachsen-Bremen e. V.

CMS Hasche Sigle

Verband Beratender Ingenieure

Zentralverband des Deutschen Baugewerbes

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Aim of research task

When awarding construction contracts it is becoming increasingly more common to do so by way of a partnership approach with all participants. This can happen in a number of ways such as general contracting, turn-key contracting, construction team, public private partnership or by competitive dialogue, where on the one hand larger contracts are awarded as a complete package and on the other hand more risks are passed on to the construction partner. SME's are often ignored when sizable construction contracts are awarded, as they lack the necessary potential to carry out such projects. A way forward to solve this problem is the teaming up of a number of SME's into a consortium in order to manage large construction projects together. Two such types of consortia exist in Germany: the design consortium and the contractor consortium. The separation of design and construction giving rise to a multitude of interfaces and the resistance to change by the participants, results in a loss of efficiency. This research is therefore to investigate whether it is of benefit and under the circumstances possible to develop standard contracts for a joint and project based consortium of medium sized construction and design companies in order to strengthen SME's competitiveness in the struggle for larger construction contracts and benefit from efficiency gains.

Method of the research task

At the beginning existing literature and other available sources of information were evaluated. Empirical investigations followed and interviews as well as workshops with participants were held with the aim to address the current issues and develop pertinent as well as practical solutions. The results were evaluated jointly with the participants and the outcome was to consider the development of a standard agreement for a consortium of designers and contractors as a constructive way forward. On the basis of these developments it was possible to establish a framework for a standard agreement, upon which it was now possible to address specific issues such as guarantees, taxation, insurances, financing, liability and the exit of consortium members as well as organizational matters including structure, organization and management. Upon development the agreements were critically discussed in workshops with all participants involved. Finally, both a standard bidding-consortium and a consortium agreement were established for an innovative and interdisciplinary consortium of medium sized design and construction companies.

Current situation

It has become common knowledge that a partnership approach from as early on as possible by all participants to a construction project including client, designers and contractors is a prerequisite to ensure project success in terms of costs, efficiency in carrying out the works and in subsequent operations, completion on time and a defect free building over the long term. However, this knowledge is not ordinarily applied in everyday situations as design and construction is still separated in most cases and a life-cycle approach is an exception. The contractual relationship between client and contractor is thus often confrontational in approach, since both parties pursue contradictory aims.

Development trends in international and national construction markets

The development of a partnership approach has not taken place in Germany at the same time as internationally. The success of the partnership approach can be witnessed internationally. The award of contracts on a design and build basis is a development that has occurred over a time period of 30 years. An increase of the market share of up to 60 % can be expected for design and build tendering by the year 2015. The increase can be explained by the number of advantages experienced by all participants. Designers can achieve higher profit, although at a higher level of risk. However, this risk can be better managed on the part of the designer due to the interdependence between designer and contractors and more efficient management. The contractors can perform at a higher level of quality, achieve timely completion and thus can benefit from the satisfaction of the client, which has a positive effect on its reputation and market share. It has been noted that a partnership approach in Germany is still an exception and if it does take place it will often be undertaken by large companies with respective market power. This is generally explained with a skeptical attitude especially by designers and project managers, as a partnership approach is perceived to be more a contractor's business model and not a model of structural innovation. Research in this area has progressed further and supports the partnership approach. Which means, that there is not a theoretical deficit but a problem with achieving its practical application. As pointed out, large construction companies penetrate the partnership approach market by buying in design capacity in order to provide design and build services. This increases the dependency of designers on large contractors. As design and build tendering becomes more widely established it could mean that medium sized construction companies come under increasing pressure to maintain their market share. Medium sized contractors could lose their market sector to larger contractors, where

they have had a strong position on the basis of local knowledge and a well trained direct workforce in exchange for taking on a subcontractor role.

Advantages of interdisciplinary cooperation

On the one hand there are clear advantages for all members of the consortium. They can expand their expertise by experiencing other corporate cultures, get to learn new strategies of marketing from a knowledgeable member, develop process competency from the design to the end of the defects liability period and benefit from cost advantages, which arise from the cooperative project execution. The client benefits as well from the award to a design and build consortium. Designer and contractor have the greatest opportunity to exchange ideas and know how over the best way forward to achieve the desired outcome of a project and the threat of asymmetric information based on insufficient design is largely avoided. Re-design and delays caused by communication barriers between designer and contractor are avoided. The early completion of design stages and optimization of the construction programme allow the formation of a competitive fixed price offer without the design and build consortium running the risk of compromising its profit margin. The dialogue with the client can identify and utilize optimization potential at an early stage prior construction, which otherwise would have been neglected and may only be fully realised later at the operational stage. The quality of the building will improve on the basis that the supervisory function of the designer is fully integrated and the danger of defects arising is mitigated to a large extent.

Model and cycle of an interdisciplinary consortium

To be able to establish a consortium without much delay and not have to spend too much time coming to an agreement, it is advisable to use a standard agreement. Currently, there are a number of consortia types. For the purpose of a consortium between designers and contractors, it is recommended to refer to the type of an umbrella consortium (Dach-ARGE), where the umbrella consortium is represented by all parties as equal members to the client. In relation to third parties there is no difference between an ordinary consortium and an umbrella consortium, as both types initially contract to undertake the whole of the works. The difference is found in the relationship between the parties, i.e. the members of the consortium. Different work requirements prevent the joint execution of the works or the duty to consign resources as is the case for an ordinary consortium. The umbrella consortium places specific subcontracts with the members of the consortium for the performance of individual work packages of design and construction. However, the formation of the umbrella consortium

represents only the third and final stage of the cooperation cycle. The previous stages are just as significant as the foundation for the formation of the umbrella consortium is cast here. The cooperation covers three stages. During the preparatory stage the partners come together and decide to bid for a construction contract. Whilst the preparatory stage is informal, the bidding-consortium requires an agreement so that in the event that an award is placed by the client the work under the contract can be performed together. For this purpose a standard bidding-consortium agreement was especially tailored to suit the subsequent design and build umbrella consortium agreement. In the event that the client awards the contract to the bidding consortium, then the third and final stage commences. The standard umbrella consortium agreement for design and build, which has been especially developed for this type of cooperation, needs to be signed. The final stage is completed with the end of the defects liability period.

Conditions for the formation of a consortium

A fundamental condition for taking part in a consortium is the general willingness to actually join such a joint venture. This is necessary to ensure a sufficient level of interest in order to secure a successful outcome of the joint venture. Then, equally minded partners have to be identified. They should be recruited out of locally based networks of medium sized companies, as this provides the greatest chance to find companies that are on par. To be an effective team it is important to analyse one's own strengths and weaknesses in respect of technical and commercial matters as well as other qualitative criteria such as loyalty, experience and company culture. Thereafter, partners who are equally prepared to co-operate and contribute to the potential of the consortium by compensating existing weaknesses have to be identified. Generally, such a joint venture in the shape of a design and build umbrella consortium should only be envisaged by companies which are financially sound. A joint venture with an ailing company for whatever motive would most likely endanger the position of the sound partner as well and is therefore not recommended. Once the partners to a consortium have found themselves, the relationship needs to be clearly defined in terms of each other responsibilities. A Skill Expectancy Matrix was developed for this purpose so that it is possible to assign the focus of work for the duration of the consortium. This is to ensure a minimum of possible conflict within the joint venture and that the design and build umbrella-consortium is successful.

Focus of research for the design of the standard agreement

Based on the practical experience of the steering group and detailed discussions with it, it was decided to concentrate the focus on a number of subjects, which were to be researched in greater depth in the development of the standard bidding-consortium and consortium agreements for a design and build umbrella consortium.

As is the case for the traditional German umbrella-consortium, the management is divided into a technical and commercial arm. A new aspect is that the technical management is exercised by the party that is responsible for the stage in question, so that the designer is technical manager during the design phase and the contractor during the construction stage. To minimise the number of interfaces and ensure the satisfaction of the client a representative is appointed out of the group of members of the consortium for the duration of the project, who is to be the contact person of the client.

Subsequently, the effect that a consortium of designer and contractor has on the design liability insurance of the designer and on the commercial liability insurance of the contractor was analysed. Both insurances cover the cost of damages that arise out of inappropriate performances on the part of the insured and are claimed by the party having suffered a loss. While the cooperation has no influence on the commercial liability insurance, it does have a significant effect on the design liability insurance. The designer, who engages in a design and build umbrella-consortium, loses the protection of its design liability insurance, as the insurance company implies detrimental collusive behaviour in the partnership with the contractor. Discussions with insurers have shown that they are aware of the problem, however were not in a position as yet to provide a solution. A possible way forward is an exclusion clause in the standard agreement in combination with a detailed audit of designer and contractor. The consequence of the exclusion clause is to allow claims only if they originate from third parties, especially the client, and to abrogate the members of the consortium the right to claim.

Taxation is the responsibility of commercial management. It was shown that the design and build umbrella consortium is accountable for Value Added Tax. Although this does not represent a problem as the duty is simply passed through without charge to the consortium. Trade income tax and corporate tax present no further difficulty either, since these are equally levied at the level of the member companies.

Another aspect which has required attention, in view of its restricting potential as to the use of the building, has been the copyright law. This has been dealt with in relative detail in the standard agreement in order to place the consortium in a position, where it can act quite

freely without recourse to the members in respect of the client and the necessary rights to use its property as it sees fit.

Even agreements, which are based on a principle of cooperation, do not prevent disputes from occurring. However, going to court should be last course of action, as this usually repudiates the relationship of trust and requires a long period of time before a decision is reached, all to the detriment of both parties. These drawbacks can be remedied by recourse to an arbitration board, as this can be more expert, faster, more flexible and less costly in comparison to the state court system. For this reason a choice of the two most commonly used arbitration agreements has been included in the standard design and build umbrella consortium agreement.

Report on the experiences of a pilot project

With knowledge of the research project, Ralf Zietz, an external post graduate PhD student at the Chair of Construction Business Management, TU Bergakademie Freiberg, used the chance to put a design and build umbrella consortium into practice. As managing director of a design company, which performs architectural, engineering and management services in construction, he is interested in expanding into new market segments. At the beginning of 2008 a chance presented itself, when a local client called for offers for the construction of a car exhibition centre. Based on the design provided by the client, the offers of two bidders proved to be above the amount that the client was prepared to invest. The design company and a regional contractor seized the opportunity and made an offer as a design and build umbrella consortium, as it allowed an ideal platform for an equitable allocation of risk and reward within a partnership based on equals from the point of view of those involved. The design and build umbrella-consortium was awarded the contract and was able to successfully conclude the work.

A review of the project confirmed the results of the research. The loss of design liability protection has proved to be an obstacle, which could only be overcome by fully placing all construction work with subcontractors. This is not an ideal situation, as one is forgoing the benefits of the knowledge and skills of one's own direct work force and becomes dependent on the promises of subcontractors over quality and reliability. A positive feature of benefit to both was found in the effective cooperation between designer and contractor. They both profited on the one hand by winning the contract, which otherwise they would not have been able to manage on their own, and on the other hand by achieving a higher profit margin. The third party to profit was the client, who received an optimised building satisfying his requirements

of lower costs and less time than a traditional procurement path with separate design and construction would have been able to achieve.

Outlook

With the elaboration of the idea of an interdisciplinary consortium of designers and contractors and the development of two standard agreements, the bidding-consortium and consortium for a design and build umbrella consortium agreements, a novel and innovative instrument was created for the construction market. This allows small and medium sized design and construction companies to have a stronger stand and defend their position in their established market sector, to better satisfy clients' demand for turn-key solutions, help to achieve higher profit margins and use the possibilities to penetrate market sectors, which previously were only accessible to large construction companies.

The benefits and efficiency gains made possible through the cooperation of designers and contractors for the good of all participants was recognized by all stakeholders and also by the insurers. This is in direct contrast to the collusive behaviour which is traditionally implied by insurers and whose response until now was to withdraw the designer's liability insurance protection. The solution found within the standard agreement for a design and build umbrella consortium, which has an exclusion clause incorporated abrogating the right of the members to claim on the liability insurance of the designer, and an increase in the demand for design liability protection by SME's for design and build umbrella-consortia may bring about a rethink in the insurance industry, as there are no grounds from the point of behavioural theory for members of a design and build consortium to defraud. Insurers would experience an economic incentive, to offer a suitable package to such a market.

It remains to be seen, whether SME's will seize the opportunity and want to differentiate themselves from their competitors with the help of the design and build umbrella consortium in order to establish new lucrative market sectors.