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PRICE PRESSURE ON PLANNERS' FEES AND ITS IMPACT ON THE PLANNING QUALITY

BERNHARD BAUER and DETLEF HECK

Institute for Construction Management and Economics, Technical University of Graz, Austria

Architects and engineers characterize themselves by their creativity, high capability of innovation, and strong professional ethics. Their knowledge and skills provide the basis for high building quality, but therefore require an appropriate salary. Even though the requirements are high, the Austrian market for planning services forces professionals to give enormous discounts on their calculated fees. To figure out the consequences of this price pressure on planners' fees, quantitative and qualitative analysis methods of empirical social research were applied. Research shows a relationship between price pressure on planners' fees and the loss of quality of their planning services. With inadequate planners' fees, planners reduce their service effort to such an extent that the costs of planning correspond to the price achieved on a supply-driven market. Lack of detail of the project description, frequent change requests, and slow decision-making by the clients additionally pose restraints on the sufficiency of planners' fees. The resulting loss of planning quality leads to a low planning depth or inaccurate planning, possibly even errors and defects and, ultimately, inefficient solutions. It furthermore translates into a lower quality of the building and higher total building costs.

Keywords: Planning depth, Planning costs, Errors of planning, Building quality, Price competition, Austrian planning market.

1 INTRODUCTION

It is significant to understand that the nature of planning services is intellectual and, compared to material services, hard to capture. That fact leads to great challenges for every person involved in the process of planning. When planning is required in the beginning of a building project, the client is confronted with the problem that he is not able to fully and clearly describe his requirements. As a result, the solutions given by planners do not necessarily lead to the same results. This in turns leads to difficulties when it comes to comparing planning services and to figure out the appropriate salary.

It is undisputed as to whether or not high building quality can be achieved when cuts in the budget and the calculated time are made. It is therefore obvious that the common practice of enormous discounts on the planning market cannot lead to solid planning. This report presents research on the price pressure on planners' fees and its impact on the planning of the quality.

2 QUALITY OF PLANNING AND ITS RELATION TO TIME AND COSTS

Quality is always a question of definition, and is therefore determined through agreements in the contract. It is defined as the relation between the realized and the required condition of the product or a service. The production of products of highest quality at minimum time and cost is a central claim for the efficiency of a process. However, factors such as "quality", "cost", and "time" compete with each other, and that becomes clear when they are being correlated with each other through quality-related models.

- An **optimization of time** leads to an acceleration of the service process, and the required additional resources lead to an increase in the costs.
- An **optimization of quality** leads to increasing costs as a result of the use of resources of higher quality.
- An **optimization of costs** leads to a loss of quality if, for example, the performing of quality inspections is possible less often.

With building projects, the demand for high quality and quick planning within construction phases leads to cost-intensive projects (Mathoi 2008, Schneider et al. 2008). An optimum of costs, time, and quality cannot be achieved, so the factors must be well-balanced. The optimal fulfillment of the requirements at minimum cost and maximum client satisfaction is a main goal not only for the client, but also for the planner (Jungwirth 1996). See Figure 1:

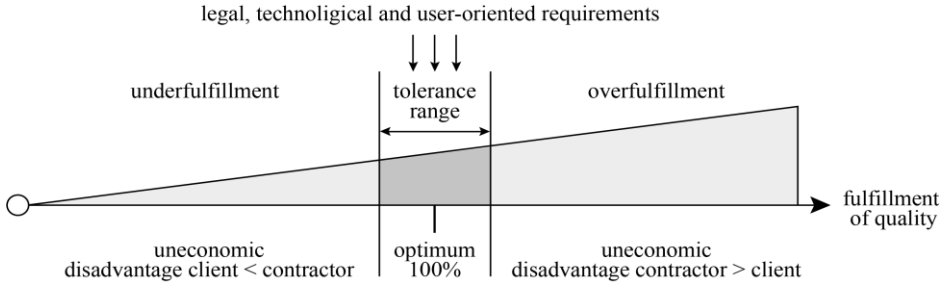

Figure 1. Quality fulfillment as a common goal of client and contractor (Kochendörfer et al. 2010).

If high quality in the planning process is not guaranteed, a restriction regarding the added value and the value conservation has to be expected.

Another point of interest is the costs resulting from defects in the building process. When dealing with the causes of defect-costs, the importance of the high quality of planning services is shown. Added up, those costs average between 4% and 12% of the investment costs; 38% are caused by designing and planning mistakes, combined with imprecise definitions of the requirements by the client (Kocherndörfer et al. 2010). As shown in Figure 2, Jungwirth (1996) defines the portion of error costs caused by design and planning errors as 30%.

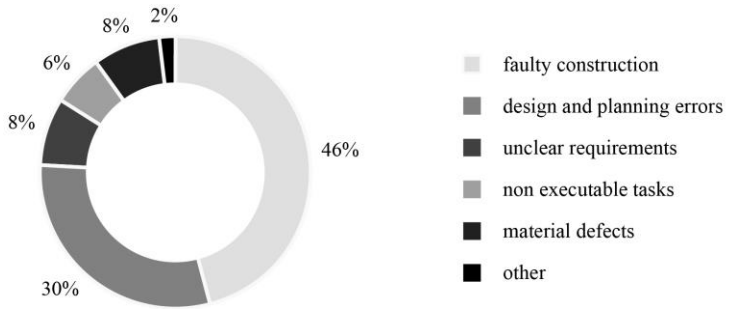

Figure 2. Distribution of the causes of error costs in the building industry.

It is also of interest that Welter (2008) estimates the part of the planners' fees for planning services of engineering construction, depending on the size of the structure, as 6% to 18% of the whole construction costs. Lechner and Stifter (2009) define this part with 15% to 20% of the overall costs. In relation to the costs of the whole period of use of the building project (i.e., life-cycle costs), this part decreases into the per-thousand range and therefore less than the portion of the financing costs (Welter 2008).

3 METHOD

To collect the aforementioned data, a survey with standardized questionnaires was carried out at symposiums of the Technical University of Graz, thus clarifying fundamental questions. The central point of interest was how planners approach problem solving within projects with non-sufficient fees, compared to projects with an adequate payment. After that, the essential query content was described in a related interview guidance document for experts of the planning industry. Between November 2013 and January 2014, a total of nine people of planning companies in the field of architecture or construction engineering were questioned. Eight of the interviewees were in managing positions and one was the executive officer of one company.

4 RESULTS

4.1 Fee Situation

Of all criteria, the price is the clearest criterion, and the decision-making in procurement processes is made on that basis. Therefore, the enforcement of fees is getting more difficult, especially with growing size and monopolistic character of clients. The fees of projects of smaller size, tendered by federal provinces, are more sufficient, but it is suspected that this situation will worsen in the future. Table 1 shows typical and peak values of the captured discounts on planners' fees.

In traffic planning, the fees of large-scale projects, respectively the fees of large contract sections, are 20% to 30% under the level of cost-covering prices. Huge discounts of 70% to 80% on planning services of public and private clients, for example in the field of industrial constructions and the areas of statics, have been

reported. In the case of private clients, discounts occasionally reach more than 80%. As for the implementation of complete design services for private and public clients in the field of direct awarding, typical discounts on building construction services (also architecture, statics etc.) up to 20% of the old Austrian recommended schedule of fees were estimated.

Table 1. Typical values and peak values of discounts on traffic planning fees.

Planning field	Typical discounts	Peak discounts
traffic	up to -45%	up to -80%
railway	up to -35%	up to -55%
bridge	up to -20%	up to -60%

4.2 Areas of Action of Planners

Within the scope of their action fields, a series of possibilities are available for planners to adapt planning costs and the achieved market prices. One instrument is staff costs, because they are the highest cost position. Depending on the sufficiency of the fees, the following consequences for the planners' work were mentioned.

4.2.1 *Employment of less-qualified staff*

Qualification of staff demands an appropriate salary and is a matter of economic capability. Employing less-qualified staff, for example students working on challenging tasks, was mentioned several times and has immense potential to cut costs.

4.2.2 *Planning activity*

An increase in cost pressure leads to attempts to increase the efficiency of running processes within the company. Is the limit of the potential to speed up planning processes reached, the next step is trying to save costs while limiting staff deployment. Because generally planning contracts only provide limited hours for the project work, the consequence is that all services that are not described are cancelled, and the planning results are restricted to the minimal requirements. This mainly relates to the development of suggested solutions and their comparison in terms of advantages and disadvantages, respectively costs and benefits. Another result is that with the corresponding extent of sufficient planners' fees, the list of duties was thinned out and the required output was reduced. The final mentioned consequence is that tasks like the preparation of the execution design and the detailed planning are assigned to the executing companies.

4.2.3 *Further areas of action*

Managers, or managing owners of smaller companies, often work on the planning themselves, and it was reported from architectural as well as engineering offices that the working hours are often extended into the leisure time of the planners. That reduces the risk of quality losses, but the cost check after finishing a project will result in economically questionable hourly rates for the services.

4.3 Claim Management

Because of the difficult fee situation, planners are often forced to generate claims out of service deviations, where the "materialistic" construction economy already functions as a role model. In that way, the bills of qualities are systematically analyzed for claim potential, and tender prices are adjusted accordingly. However, it invites criticism because it is feared that claim-management for planning services will lead to a loss of the client's trust. Nevertheless, it is widely agreed that the current fee situation will undoubtedly result into more claim-management of planners.

4.4 Impact on the Planning Quality

In connection to the lacking adequacy of fees and the already described reduction of planning efforts, the loss of quality in terms of the planning is caused through:

- The ineconomy of solution variants,
- A reduced planning depth and planning accuracy, and
- The tendency towards the increase of errors and deficiencies.

The lacking economy of solution variants is directly related to the termination of thinking processes. Lacking planning depth and accuracy leads to complications in the stages of construction, because parts of the project are not or are insufficiently planned, and therefore essential information in the planning results is missing. So there is a risk of realizing solutions, which are suboptimal for the tasks of the client. High cost pressure on the planning services also leads to a neglect of inspections and diligence. According to the questionnaires, even in high-risk fields (for example, statics), risks are taken. This leads to incorrect planning, which in turn increases the liability risk for the planner.

4.5 Bills of Qualities for Construction Services

Parts of the planning that are not designed properly cannot be captured and expressed in adequate bills of qualities. If there is a lack of resources for an intelligent bill of qualities, higher offers have to be expected. Due to defective bills of qualities, there is also a risk of speculative offers and an increasing number of potential claim from contractors (executing companies).

5 DISCUSSION

The availability of clear lists of duties and recommended schedules of fees for the enforcement of fees is positive, but there is a need of change in the procurement process of public clients:

- Services should be tendered under stronger consideration of quality criteria,
- Effective criteria for insufficient prices should be established and

- The regulations of the Austrian federal law on public procurement should not be tightened in the invitation to tender.

Additionally the technical expertise of the person in charge of the procurement process should be strengthened to be able to discuss on the same technical level. Furthermore, planners should see themselves challenged to improve their self-presentation in matters of entrepreneurial acting and of raising client's awareness for the value of planning services.

6 CONCLUSION

The present price pressure on planners' fees leads to inadequate planning and furthermore to errors and deficiencies. Insufficient fees also force planners to reduce their effort and to react with consequent claim-management, which again leads to a loss of the client's trust and often results in contractual disputes. With the reduction of the planning depth, risks are taken in order to save costs.

Even though the requirements for building projects are very high, reductions of planners' fees of up to 80% of the calculated price happen in the Austrian market. That is also a result of the monopolistic character of some public clients, e.g., traffic projects. Considering that the share of planning costs compared with the costs of the whole building project is only minimal, efforts to save money with the reduction of planners' fees have to be reconsidered and critically questioned.

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