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PRICE PRESSURE ON PLANNER'S FEES AND ITS IMPACT ON THE PLANNING QUALITY

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Architects and engineers characterize themselves through their creativity, high capability of innovation and their strong professional ethics. Their knowledge and skills - if diligently applied - provide the basis for a high building quality, but therefore require an appropriate salary.

Even though the requirements are that 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 planner's fees, quantitative and qualitative analysis methods of empirical social research were applied. Research shows a relation of price pressure on planner's fees and the loss of quality of their planning services. In case of inadequate planner's 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 planner's 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 of significant importance 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 of that, the solutions given by planners don't necessarily lead to same results. This in turns leads to difficulties when it comes to comparing planning services and to figure out the appropriate salary for those.

It is undisputed, that high building quality cannot 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 a solid planning in the end. In this contribution, a research on the price pressure on planner's fees and its impact on the planning of the quality is presented.

2 THE QUALITY OF PLANNING AND ITS RELATION TO TIME AND COSTS

Quality is always a question of its 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 of a service.
The production of products of highest quality, as quickly as possible and for the lowest costs, is a central claim for the efficiency of a process. But factors like "quality", "cost" and "time" compete with each other, and that becomes clear, when they are being related 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 of 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 less often possible.

With building projects, the demand of high quality and quick planning- and construction phases lead to cost-intensive projects (Mathoi, 2008, Schneider, Geiger and Schreuring, 2008). An optimum of costs, time and quality cannot be achieved, so the factors have to be well balanced.
The optimal fulfillment of the requirements at minimum costs is a main goal for the client, but also for the planner. The fulfillment of the quality criteria requires the client's satisfaction and low maintenance costs. (Jungwirth, 1996)

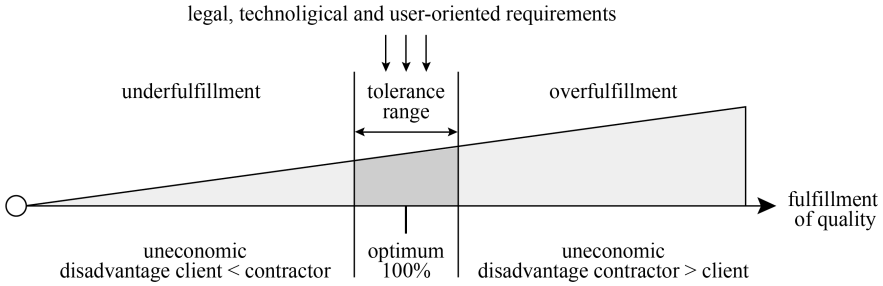

Figure 1. Quality fulfillment as a common goal of client and contractor (Kochendörfer, Liebchen and Vieweg, 2010)

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 of defects in the building process. When dealing with the causes of defect-costs within the construction field, the importance of the high quality of planning services is shown. Added up, those costs average between 4 and 12% of the investment costs and 38% of them are caused by designing and planning mistakes, combined with imprecise definitions of the requirements by the client (Kocherndörfer, Liebchen and Viering, 2010).

As shown in Figure 2, Jungwirth (1996) defines the part of error costs in the building industry caused by design and planning errors with 30%.

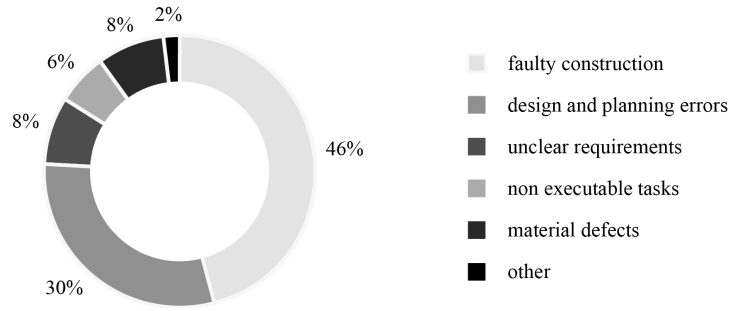

Figure 2. Distribution of the causes of error costs in the building industry (Jungwirth, 1996)

It is of interest, that Welter (2008) estimates the part of the planner's fees for planning services of engineering constructions, depending on the size of the structure, with 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 (life-cycle-costs), this part lowers into the per thousand range and therefore below the part of the financing costs (Welter, 2008).

3. METHOD

To gain the aforementioned study content, a survey with standardized questionnaires were carried out at symposiums of the Technical University of Graz. In this way fundamental questions could be clarified.
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 in order to interview experts of the planning industry. In the period of November 2013 until January of 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

The price is the clearest criterion and the decision-making in procurement processes results 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, which are 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 planner's fees. In traffic planning, the fees of large-scale projects, respectively the fees of large contract sections, are 20 to 30% under 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, were reported. In the case of private clients, discounts occasionally reach more than 80%.
Regarding 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 the planning costs and the achieved market prices. One main instrument is the stuff costs, because they are the highest cost position. Depending on the sufficiency of the fees, the following consequences for the planner's work were mentioned.

4.2.1. *Employment of less qualified staff*

Qualification of staff demands an appropriate salary and is a matter of economical capability. The employment of less qualified staff, for example students that are working on challenging tasks, was mentioned several times and has immense potential to save costs.

4.2.2. *Planning activity*

Increasing cost pressure leads to the attempt 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 with limiting the staff deployment. Because generally planning contracts only provide limited hours for the project work, the consequence is, that all the 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 corresponding extent of sufficient planner's 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

Through 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, that the bills of qualities are systematically analyzed for claim potential and tender prices are adjusted accordingly.
Still it is seen very critically because it is feared that claim-management for planning services leads to a loss of the client's trust. But 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 uneconomicalness of solution variants,
- a reduced planning depth and planning accuracy and
- the tendency towards the increase of errors and deficiencies.

The lacking uneconomicalness 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 aren't 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 planner's 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, price reductions on planner's fees of up to 80% of the calculated price can be achieved on the Austrian market. That is also a result of the monopolistic character of some public clients e.g. in the field of 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 planner's fees have to be reconsidered and critically questioned.

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