BASICS PROFESSIONAL PRACTICE

BUDGETING

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Foreword

The key part of an architect's job, alongside design and planning work, lies in managing matters relating to the project and the client. This includes organizational, technical and financial aspects: from planning the sequence of events, tendering, deadline planning and costing via site management to handing over to the client. Here efficient and successful building project management relies essentially on the confident handling of building costs and deadline planning.

It is the planner's duty to deploy the client's money for the building work as the client intended. As a ruler the planner has a pre-arranged budget that he has to distribute between all the costs generated in the course of the work undertaken. Keeping to the prescribed budget is usually crucial to the success of the project as a whole.

For this reason, the quality of planners is assessed to a very considerable extent by the way they control costs and meet deadlines; to an even greater extent, budgeting is one of the most important bases for project realization, and it must play an integral part in the planning and building process. Determining costs is essential when compiling a project budget and for monitoring costs during the subsequent process, so that any costs exceeded during planning and building can be identified and controlled.

As students and professionals at the start of their career have little practical experience, they are particularly uncertain about handling costs for their early building projects. But their responsibility to the client requires that these matters should be tackled confidently.

Basics Budgeting explains budgeting processes during the planning and building phases step by step and in practical terms, and shows in a comprehensive and clearly structured way how cost influences and risks are estimated and evaluated. This is supported by practical tips, examples and simple, comprehensible graphics that help when compiling a budget. Inexperienced planners acquire an indispensable tool for starting work in the budget management field on a sound and practical basis.

Bert Bielefeld, Editor

Introduction

The relevance of construction costs

Estimated and actual costs are a key topic for client and architect in many building projects. This is not least because the client has to invest a considerable sum in a building project, a sum that in many cases is far larger than other expenditure. It is therefore essential for the client that contractors work within budgets. This applies particularly when money is being invested in properties to provide a return on investment, where subsequent income (such as rents or sales) is set against the necessary expenditure (building costs, financing costs, depreciation, maintenance costs). The yield or profit (income minus expenditure) from property investments is a key criterion in deciding in favour of the project, and in its success. Even slight building price rises during the construction phase can drag the project into loss – with consequences that can last for many decades.

An additional factor is that construction projects – unlike industrial production – are usually highly individual in character, or can even be like prototypes. This means that processes and structures can be carried over unmodified from one project to another only to a limited extent, so imponderables and surprises may occur that affect timing or finance in a way that was wholly or partly unforeseen at the beginning of the project. Additionally, a lot of time can elapse between deciding in favour of a project and completing the building, so that estimates made at the beginning of the project about shifts in market prices, for example, may sometimes not hold good over a period of time.

Life cycle costs

Even if this time span can entail considerable financial fluctuation, it is very short if measured against the life cycle of a building, but will still make a substantial impact. Financial decisions, e.g. about options for construction or domestic services, have an effect throughout the entire use or life cycle of the building, and lead to differing running costs. If the costs generated (heating, water and power supplies, repairs, maintenance etc.) while the building is being used are added up, they will be substantially greater than the initial investment. But investment in a building project has to be raised within a very short period of a very few months or years, while running costs extend continuously over decades. Higher initial investment in technical equipment, such as more efficient heating systems, for example, can achieve significant savings within the lifetime of the building. > Fig. 2

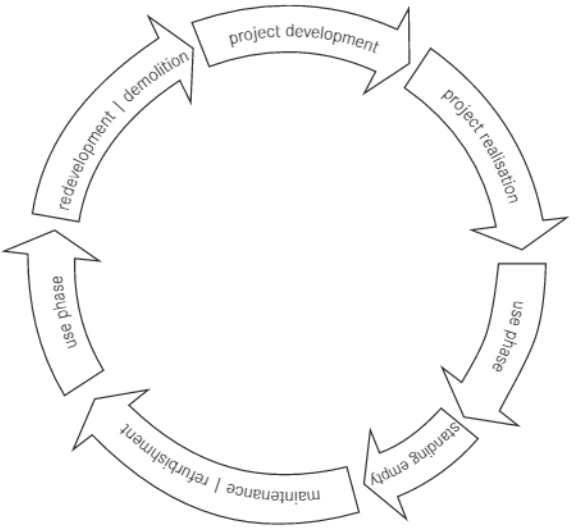

Fig. 1: Life cycle costs

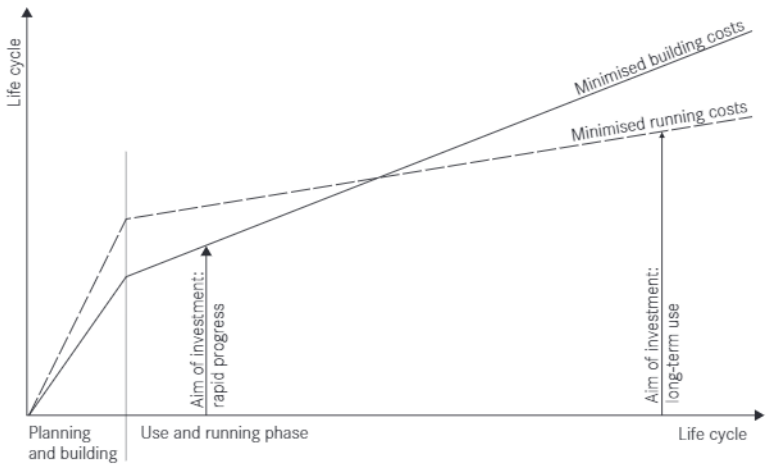

Fig. 2: Links between investment and use costs

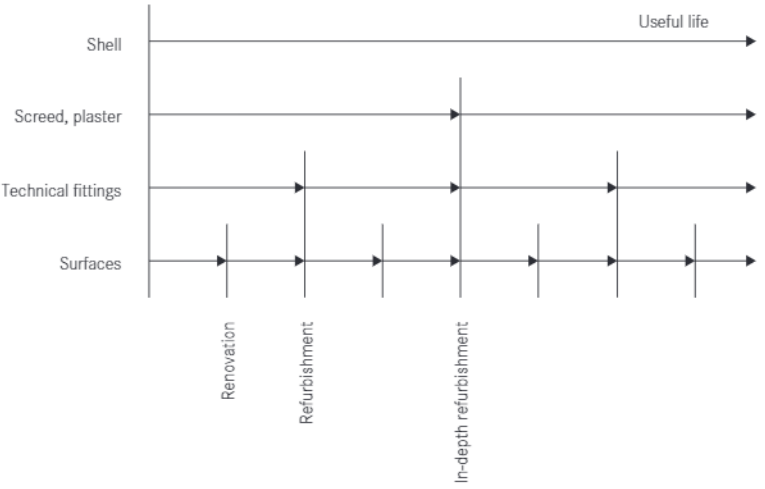

Fig. 3: Life cycle of building sections

Investments during use

Alongside the investment costs while a new building is under construction and the on-going maintenance costs, new investment is needed at various intervals (maintenance and replacement costs) in the life cycle of buildings in order to raise the structure to a more up-to-date technical standard or to repair significant damage. Here a distinction is made according to the part of the building concerned between various cycles that may well turn out differently from project to project. The shell of the building is generally the longest lasting section, and the end of its useful life usually coincides with demolition and rebuilding. Sections with a robust finish such as the outer shell, plaster and screed are also pretty durable and have to be replaced only after some decades. Technical fittings (e.g. ventilation plants, plumbing, electrical installations, data systems technology) and surfaces subject to wear and tear (e.g. paintwork, floor coverings) last for a considerably shorter time and some of these are subject to very short investment cycles according to their function, construction method and maintenance level. > Fig. 3

This is why it is important to consider subsequent ease of replacement and the life cycles this implies at the planning stage. If technical features with short life cycles such as data cables or ventilation ducts are installed underneath longer-lasting items (e.g. screed or plaster), these will have to be removed and replaced as well during the procedure, along with all coverings and surfaces. This would mean that future