

Design as a value generator for clients and society

Designing Better Buildings: Quality and Value in the Built Environment

Edited by Sebastian Macmillan

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Representing a client of the construction industry sometimes proves to be not as attractive an occupation as might at first appear; there are many complex, and perchance conflicting, interests to reconcile. Every solution to a construction requirement needs to balance the demands, wishes and needs of designers, constructors, funders, managers, planners, environmentalists and building users with conservationists, with avant-garde modernists and even sometimes with residual traditionalists in the industry ready to pounce on any mistake and pillory the perpetrator. The 'blame culture' has been challenged post-Latham, but, even at a high level, pockets of resistance persist. The funder, whether private benefactor or public-sector agent, is avid for

'value for money', sometimes without thinking too deeply about precisely what this should mean. When the benefactor is a commercial operator willing to finance an expensive new project, the requirement is for a constructed asset that will add net value to the business, with the operation of the building allowing successful achievement of business objectives. At the same time, such a solution must be acceptable in terms of local planning requirements and be in keeping with the aesthetic quality of the surroundings. When the financial costs are from public funds, what is built must recognize the demands of public policy as well as the requirements of the institutions it is intended to serve. Therefore, the client, the starting-player in any project, wonders how to balance all the competing pressures and what techniques are available to help.

Where can the nervous client go for help in negotiating a path through this minefield?

Dr Sebastian Macmillan, an architect with extensive and highly regarded teaching and research experience, and a part-time academic at the University of Cambridge's architectural research unit, The Martin Centre, has brought together a number of recognized experts and practitioners to introduce, and explain, much of contemporary thinking about several of these issues. *Designing Better Buildings* includes contributions from 24 specialists, many nationally and internationally recognized for their contributions to the developments that have taken place in the industry over the decade since Sir Michael Latham's ground-breaking report *Constructing the Team* (1994), and later that decade when the tensions between the relative importance of process and design were thrown into tension and focus.

What an enthusiastic group these experts prove to be! Their individual and generally eloquent coverage has been grouped by the Editor into four categories: The per-

spective of clients; Case studies of added value; Delivering better buildings; and Measuring quality and value. Overseeing these broad areas is the Editor's Introduction, 'Design as a value generator', where he notes that good design (however that might eventually be defined) procures commercial as well as social advantage for the owner and user. If there is a unifying theme to the book, it is that good design undoubtedly adds value, and more specifically that methodologies must be developed and applied to quantify this as far as is sensibly possible.

Robin Nicholson, partner in the architectural firm Edward Cullinan Associates, and former, highly successful, Chairman of the UK Construction Industry Council, has perhaps the best perspective on what has happened in the industry. In his Foreword, he implies that the public sector has taken a leading part in making society as a whole sympathetic to design-based construction:

The change of mood is as welcome as it was unexpected. The Government's closure of the Royal Fine Art Commission and the establishment of the Commission for Architecture and the Built Environment [CABE] has been a major driver of this change. CABE is exercising its muscles at the highest levels in Whitehall [central government], while it is promoting the cause of good design with a team of enablers and local champions around the country.

This may well be so, although the present author believes public appreciation of the resurgence in design as a priority to be less than some sections of the book claim. Certainly, Nicholson's praise for the achievements of CABE as the replacement for the unlamented Royal Fine Art Commission is justified. However, he does rather gloss over the suspicion that remains among commercial clients, attributed by some to Sir John Egan's influence, that the input to the process by the architectural profession is not so central to the objective of meeting client's requirements as is the process of procurement. Egan's essential challenge to the construction industry was to turn itself into a world-class manufacturing industry, but the construction industry is much more prototypical than most manufacturing industries.

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Peter Trebilcock, Vice-President of the Royal Institute of British Architects (RIBA), in a later contribution looks at how projects have been, and hopefully ought to be, managed to draw maximum advantage from the application of good design. He acknowledges this by reproducing Louis Hellman's brilliant drawings of the architect

as seen by the builder (a foppish Wildean aesthete with cane and lace-up boots), by the quantity surveyor (a baroque deity happily scattering £10 notes from a bottomless cornucopia of clients' money) and by the public at large (high in the clouds musing over the drawing board). This refreshing light-heartedness does not, however, disguise the essentially serious-minded approach adopted throughout aimed at making the client and supplier aware that design principles can be codified, and their costs and benefits measured and evaluated. Egan's guiding principle in *Rethinking Construction* (1997) was: 'If you can't measure, you can't manage'. While that concept originated with his experience in manufacturing, and is often challenged by some designers, it is as important that the client and all of the supply side deploy a sensible application of measurement techniques and metrics, even in areas traditionally regarded as subjective and intangible.

The growth in client awareness of the particular expertise needed accurately to define business requirement for a construction solution is well described by Tony Pollington. Working with others in the former UK Construction Clients' Forum, Pollington helped to produce first a statement of what clients want from the industry (*Constructing Improvement*, 1998) and then the Clients' Charter, now operated for Constructing Excellence by Achilles Information Ltd. In his chapter in the present book, Pollington develops the crucial point that only rarely do clients need buildings for their own sake – they are a means to a business end. He also raises the key concept of 'clientship'. The present author welcomed his warning that unless they take deep root, the reforms of the last decade might wither if there is a downturn in the economy. There could be a return to the disastrous policies of 'lowest initial price whatever' and 'claim high and get what you can regardless'.

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Crucial to design improvement is an effective feedback system covering clients' experiences, quantified in financial and operating efficiency terms wherever possible, of their new buildings in use. Dr Bill Bordass of William Bordass Associates contributes a comprehensive and well-focused account of the work by him and others originating in the Partners in Innovation programme and developed in work set up by the Construction Research and Innovation Strategy Panel (CRISP). This approach is gaining wider acceptance among commissioners and users of buildings, incorporating the Post-occupancy Review of Buildings and their Engineering (PROBE), aimed at formulating a standardized method of recording

costs in use, so as to provide the information necessary for evaluating options for future capital investment (also see the *Building Research & Information* special issue on 'Post-occupancy Evaluation' [2001], 29[2], and feedback in subsequent issues). Bordass's considerable analytical ability shines through his chapter, starting with the recognition of how little was previously done in this or other countries. The CRISP work, and other work by Bordass on feedback, has been in the vanguard and there is no disguising the rudimentary nature of much of this work, nor the reluctance of many practitioners to adopt the process. Bordass notes the unjustified excuses of increased bureaucracy and of industry fragmentation. However, he brings encouragement in the growing recognition of the ultimate advantage accruing from the future accessibility of adequate and reliable databases on buildings' performance and net benefits as set in context in the late chapters on Key Performance Indicators.

While on the subject of work done by CRISP, Giles Oliver's chapter on 'conscious values' adds a depth of thoughtfulness from his chairmanship of the CRISP Design Task Group on how designers optimize the processes in the industry. Oliver works hard to balance the need for architectural antimony and meeting the needs of the team.

As reflections on this chapter and on the 40% of the book given to case studies, it is interesting to note that while feedback analysis assesses both the good and the bad in a project so as to learn from these equally, the best-practice programmes of case studies almost entirely relate to information provided on projects deemed successful. It is good that 'Best Practice' material aims to lift standards and morale, despite the moaners and knockers so common in this country. However, it is equally important for both client and supplier to recognize where solutions have proved unsuccessful, and the reasons for such situations. It is no surprise that it proves very difficult to find practitioners willing to have their mistakes identified and illustrated, but advice on designing better buildings must imply a start from a less than optimum base. Consumer power should get one to reflect on 'worst practice' as well as 'best practice' without significant detriment. Good design to some clients starts with an absence of the bad design that leads to leaks or to stuffy or noisy rooms, etc.

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Descriptions of proposed methodologies for construction are helpful and need their practical applicability to be recognized. There are good descriptions of modern projects, e.g. the UK Ministry of Defence's Abbey Wood Bristol complex (reported by Terry Wyatt of consulting engineers Hoare Lee Partnership), hospital buildings at Poole and Brighton (Bryan Lawson), and particularly interesting developments in assessing design quality in new school buildings (Richard Feilden, a great authority on this subject, as on others) and many others. These chapters are interesting and helpful. The aesthetic and practical aspects of quality are well noted. Every one of these chapters shows how the best of British really is very good indeed. However, there is one general criticism of the best-practice examples. It is disappointing to note that in this book, as in most of the outpourings from the huge number of initiatives flowing from and after Egan, there is scant comparison with practice and achievement in other, highly developed countries. Why? One can learn a great deal from, e.g. Scandinavia, the Netherlands and the US. 'Not invented here' has proved a serious inhibition in obtaining acceptance and application of innovation in construction in the UK, and the Movement for Innovation (M4I), now incorporated within Constructing Excellence, has fought hard to refute the accusations of arrogance on the part of the UK industry.

However, this book clearly documents an emerging acceptance that one of the most important determinants in assessing quality of design must be the recognition of the long-term financial costs of owning and using buildings; the emphasis given to the ratios between the costs of constructing, maintaining and operating buildings compared with the costs of operating the business. (The oft-quoted Royal Academy of Engineering ratios are 1:5:200 in the case of commercial office buildings for capital cost, whole life costs and staff costs.) Several writers, notably Raymond Evans, Richard Haryott, Norman Haste and Alan Jones (Chapter 5, the long-term costs of owning and using buildings), confirm how important it is for the client to recognize that the building is both a business asset and a tool for achieving business objectives. It is vital, therefore, that the building owner and the building user (if these are different) recognize the true costs of acquisition and operation. In assessing these, it is of course helpful to note (as the present book does) the example of costings and other metrics of projects that are generally accepted as being successful from the point of view of operation, capital and running costs, and appearance. This encourages designers, constructors and clients to assess design quality not merely in terms of aesthetics, however quantified, but in terms of all factors that will influence the design, the user's requirement, the cost, construction method including factory-based components, and the effect on the environment in the widest sense. The case studies and

later chapters are helpful in this regard. (Note, however, that one of the more neglected areas of influence on design is the effect of the planning system. This book is largely silent on this issue.)

Several of the writers refer to CABE's considerable contribution in a challenging climate of opinion to better design of buildings. Jon Rouse, Nicholson and Macmillan in particular note the challenge that was made in the late 1990s to the importance of design in the overall process. Interestingly, none speculate whether CABE would in fact have been set up (and so hugely funded) had there been a strong, well-communicated and effective lobby for design (by RIBA/by the Royal Fine Arts Commission (RFAC)) during the implementation of Latham in the mid-1990s or during the process-driven initiatives from 1997. Construction was even switched to the government department responsible for industry (the Department of Trade and Industry), away from that for the care of the environment and, in fact, the champion for design was delivered from the Prime Minister's office.

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In any event, CABE did come amongst us, and its power is reflected throughout this book. Contributors note how Rouse, the first Chief Executive of CABE, has made the organization immensely influential in facilitating improvements in the quality of the whole of the built environment. He has written a powerful chapter with useful and new data on how some designs can bring quantifiable benefits to the client's business. In Chapter 15, architect and CABE commissioner Sunand Prasad brings the usual benefits of his clear visions on Design Quality Indicators (DQI) with helpful development (in Chapter 16 by Michael Dickson; and Chapter 17 by Jennifer Whyte, David Gann and Ammon Salter). (Also see *Building Research & Information* [2003], 31[5] and [2004], 32(3), for more on DQI.) DQI are now gaining wider acceptance through the advocacy of the Strategic Forum on Construction and Constructing Excellence, and acceptance of metrics permeates much of the contents of the present book. It will be interesting to see how Rouse, this doughty champion of design, will balance the often conflicting requirement of cost-effective volume production and the application of 'quality' (in all its meanings that he sets out so clearly) in his new job at the Housing Executive.

The authors do well to describe the basis and applicability of Key Performance Indicators, being neither

boring nor overstating. It is refreshing to be led to conclude that there is merit in quantifying subjective views of soft issues in that as data build, relative judgements gain value by reference to the trend, notwithstanding the inevitable lack of absolute data. So it is with political polls and polls of commercial confidence – it is the trend that matters.

A volume aiming to give a comprehensive coverage of design issues must rely heavily on illustration to make its point. Here the Editor has not been best served by his publisher. Coloured illustrations are good but very much in the minority, and the grey-and-white photographs, with their somewhat grainy and old-fashioned reproduction, often obscure, rather than illuminate, the points made. This is a carping criticism. However, there is a stronger editorial criticism: the book could have been better structured, perhaps into less-overlapping sections on client needs, design parameters and metrics, best (and worst?) practice, current research, and where the profession should now be heading in practice and research. It would also have been helpful to have a final chapter pulling together the main themes. Overall, however, the book's strength remains its strong message that ultimately it is the client's requirement that should provide the motivation for design; and often that is helped by measuring and feeding back assessment of the benefits of quality. There remain Vitruvius' simple list of 'commodity, firmness and delight', but if delight is to be the greatest of these, it must be served by the others!

Who should buy this book? It should be a standard textbook for all university architecture, built environment and building management courses for both under- and postgraduates. As a client, I would like future designers to have read and thought about the text with its ideas from all the various contributors. The book is also to be commended to the libraries of the bigger professional practices, especially those that still seem to have insufficient regard for the satisfaction and delight of their clients, and the users of their buildings. RIBA, CABE and the Office of Government Commerce should have ten copies each. Perhaps Egan will send copies to his friends at Christmas time. The Construction Clients Group should advise all clients to enclose a copy in interview material for designer-selection boards.

It is unlikely that the application of the designer's 3B pencil, or the computer-aided design equivalent, will be improved as a direct result of the publication of *Designing Better Buildings* which assesses and promotes sensible and pragmatic changes that have been happening at the vanguard of the profession for the past decade. However, if the main messages of this book

are more widely accepted, then the construction industry will serve society better. Designers will have come in from the cold. The nervous client will sleep better.

*David M. Adamson
Estate Management and Building Service,
University of Cambridge, UK
dma23@admin.cam.ac.uk*

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