Original Articles

Building appraisal: A personal view

Received (in revised form): 19th November, 2008

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Abstract

This paper describes how between 1985 and 1995, in one building type — the office — a form of Building Appraisal became an operational reality in DEGW, a London-based architectural practice. The context was firstly the aftermath of ORBIT, the DEGW-led study of the impact of information technology on office design and secondly, the consequence of the explosion of new kinds of office development in London from the mid-1980s, stimulated by the rapid growth of the technology-driven global financial services industry, as well as of the technology companies themselves. Initially, this form of Building Appraisal was informed by extensive sectoral user research. As time went on, however, the method became routinised and lost its critical edge. The conclusion is that both Building Appraisal and Design Guides — in office design at least — need to be continually refreshed by new user research because this field is so volatile and subject to technological, social and cultural change.

Journal of Building Appraisal (2009) **4**, 149–156. doi:10.1057/jba.2008.45

Keywords:

office design, building appraisal, design guides, information technology, user research, sectoral studies, ORBIT study

A BACKWARD GLANCE

Memory is a treacherous thing. When did the idea of systematically appraising building performance first catch my attention? When I was a student at the AA, when I was working for the National Building Agency and simultaneously editing the *AA Journal*, when I was active in the Design Methods Group at Berkeley, or a little later at Princeton? For me there are still many questions to be asked about the origins of Building Appraisal: How does 'Building Appraisal' differ from 'Post Occupancy Evaluation'? Is one a subset of the other, and to what extent are they both part of larger areas of intellectual enquiry that used to be called 'Design Method' and 'Design Research'? Unfortunately, these larger questions of definition are beyond the scope of this paper, which is simply intended to describe the circumstances in which for a few years, in a particular building type of Building Appraisal, became for me as a practising architect an operational reality. My

hope is that other workers in my field may be able to derive some general lessons from this experience.

I certainly have no difficulty in remembering the circumstances in which DEGW, the architectural practice I helped to found in the early 1970s, developed a very specific service for developers, which we called 'Building Appraisal'. From the mid-1980s to the mid-1990s, Building Appraisal was a significant part of our consultancy work. The context was very specific. From our earliest days in practice, DEGW had been aware of the potential impact of information technology (IT) on office design. This was largely the result of working as space planners and interior designers for such clients as IBM, Digital and Hewlett Packard — not just purveyors, but inevitably early adopters and intense users of IT, and consequently already very well aware of the profound implications of IT for the design of the working environment. In 1983, DEGW initiated, managed and published a multiclient study on the impact of distributed intelligence on the design of office buildings and interiors. This study we called 'ORBIT' — 'Office Research: Buildings and Information Technology' (Duffy, 1983). The results turned out to be more fortunately timed than we could reasonably have expected.

THE SIGNIFICANCE OF ORBIT

Our objective had been to explore how the design and specification of office buildings and interiors would be changed by the emergence of electronic technology. The ten major conclusions of the study were as follows:

- (1) Most of the technology that was to have the greatest impact on office design over the next ten years already existed.
- (2) IT at that time was not easy to assimilate into office buildings.
- (3) The specification for new buildings was more stringent than was generally assumed.
- (4) Contemporary problems in accommodating computer equipment were not short term.
- (5) IT would change the way in which organisations use buildings and would influence design priorities.
- (6) IT would change patterns of space use in buildings. The likely impact of IT on the overall demand for office space was less clear, however.
- (7) IT was changing the rules of locational choice.
- (8) Buildings varied greatly in their capacity to accommodate IT.
- (9) Many existing buildings were in danger of premature obsolescence.
- (10) Extensive and premature renovation of existing buildings was likely to be expensive but inevitable.

What we had not anticipated when we published ORBIT was that everything was already in place under Margaret Thatcher's leadership for the deregulation of the British Financial Services industry. This was a direct consequence of the globalisation of this industry, a phenomenon that was itself the inevitable result of electronic technology, the architectural manifestations of which had been the subject of ORBIT. IT was being used by global enterprises on a colossal scale to shift huge amounts of money and information from Asia Pacific to Europe to North America on a 24 h basis.

It was by no means inevitable that London would become the Financial Services capital of Europe. Paris or Frankfurt could easily have captured that prize. Paradoxically, part of the reason for London's recovery and subsequent success in this field was that the bulk of the stock of office space in London, especially in the City — despite the outstanding exception of the Corporation of Lloyd's highly innovative building designed by Richard

Rogers — was of very poor quality. London's offices were obsolescent — as obsolescent as most of the financial institutions of the City themselves at the time. ORBIT arriving when it helped to articulate the problem, making the situation absolutely clear: things were so bad in British speculative office design that something simply had to be done.

CONSEQUENCES OF ORBIT

Three pioneering developers rose to the occasion. Stuart Lipton of Stanhope, Godfrey Bradman of Rosehaugh and Ware Travelstead. Lipton and Bradman, directly influenced by ORBIT, pioneered a new type of office building specifically designed to accommodate the requirements of the rapidly emerging global financial services industry — with big, deep floor plates, cores with space for substantial vertical ducts, high levels of servicing to cope with the randomly located heat output of masses of electronic equipment, and access floors designed to accommodate huge amounts of cabling. The prototypes of this new kind of office development were 1–3 Finsbury (designed by Peter Foggo of Arup Associates), followed by the adjacent and much larger Broadgate development (architects: Peter Foggo of Arup Associates and SOM) built over reclaimed railway lands immediately North of Liverpool St. station. Travelstead, an American developer, had the imagination to pioneer large-scale office development at Canary Wharf — architecturally less radical than Rosehaugh Stanhope's initiatives but still an improvement on North American office standards and well ahead of what conventional British developers had been offering until then. When the Canadian developers Olympia and York took over Travelstead's project with much greater resources and with the support of the American architectural practice SOM, the City of London, faced with the inevitable availability on their doorstep of large amounts of cheaper office space at a high level of specification, finally recognised the scale and criticality of the local as well international challenge to its supremacy, and changed its planning policy accordingly.

Another contemporary offshoot of ORBIT, also stimulated by global economic and technological factors, was DEGW's work to the west of London, at Stockley Park, a business park conveniently located near Heathrow. Consequently, ORBIT also became influential in developing the specification for buildings to accommodate high-technology (hi-tech) firms themselves. This too was carried out under the aegis of Stuart Lipton and Stanhope. Previously, planners had thought in terms of accommodating such enterprises in tin sheds on industrial estates. Now it was possible to demonstrate, using exactly the same kind of extensive user research and field work that we were employing in the financial services sector in the city, the emerging demand for buildings and environments of a much higher specification to meet the more complex requirements of sophisticated hi-tech enterprises and the aspirations of the well-paid and highly educated professional people who were employed by them.

Such were the profound technological and cultural changes that led in the early 1980s to the development of DEGW's version of 'Building Appraisal'.

BUILDING APPRAISAL IN PRACTICE

Sectoral user research was critically important to the success both of Broadgate and Stockley Park. The process of assessing the quality of office design proposals based on this research that we had initially developed under the sponsorship of Rosehaugh and Stanhope was eventually applied over the next decade to many other projects by many architects. At the beginning, five key operational criteria reinforced the link between our version of 'Building Appraisal' and the exploration of what office users really needed.

The first and perhaps most fundamental operational criterion was that the measures we used were fresh because they had been empirically derived from recent and highly relevant data. They were never intended to be *ex cathedra*. The credibility of our assessment of both city office buildings and business park buildings depended upon user research, that is, talking extensively to the people responsible for accommodating business functions. Data collected in numerous focus group discussions about causes of satisfaction and dissatisfaction, user requirements, priorities and aspirations kept us thinking and, if I may make so bold a claim, kept us honest.

The second criterion, certainly at the beginning, was that a strong sense of urgency permeated these focus group discussions. Not only were they novel experience for most people attending, but the meetings had a critical edge that came, I believe, from the fact that those attending felt strongly that there was something wrong with the office space they were currently occupying. At the time, there was ample cause for complaint, since, as I have explained above, contemporary British office standards and user expectations were generally much lower than they are today.

The third operational criterion was our insistence to our focus group members that differences in opinion and priorities were legitimate and should be expressed. One such dimension of difference was sectoral. Extensive experience in space planning for different kinds and conditions of enterprise — financial services organisations, different professions such as accountancy and law, even the differences between younger and more mature enterprises — had made us wary of imposing normative criteria. One size certainly did not fit all.

The fourth major criterion was cultural. For example, there are deep differences in national office cultures: between businesses of North American and Japanese origin versus the Europeans and even between the expectations of Northern European enterprises such as the Swedes and those from the South such as the Italians, the Spanish and even the French. Again, DEGW was privileged to have been sensitised early to the significance of such differences through working for the same organisation, for example IBM, on several continents and in many different countries.

The fifth major operational criterion was entirely practical: whatever was revealed to us in these focus groups about organisational priorities or requirements had to have a direct and easily attributable consequence either for physical design or facilities management. Many interesting things were revealed about business culture and priorities in our user sessions, but unless they helped in assessing whether or not a particular design or space management approach worked, we tossed them aside as irrelevant.

Looking back, I now realise that what happened over a decade or so to the service we invented and called 'Building Appraisal' was a kind of entropy. What had been fresh gradually became routinised. What had been challenging and novel became common knowledge. Sadly, as time went on, the operational criteria listed above were forgotten, and in consequence, the sharpness, the attack, the quality and the utility of DEGW's Building Appraisal declined. There is a general lesson here for all of us.

TWO DOCUMENTS

Nevertheless, I remain proud of much of what we achieved. Two manifestations of DEGW's approach to Building Appraisal are still worth revisiting even 20 years or more after their publication. I do not believe that anything quite like them has been published since.

The first is a document commissioned by Rosehaugh Stanhope and produced and published by DEGW in 1985 called *Eleven Contemporary Office Buildings: A Comparative*

Study (DEGW, 1985). The purpose of this comparison of 11 projects, chosen because they were all programmed to come onto the market at the same time, is captured in the first paragraphs of the introduction, which calmly, if a touch ingenuously, set the tone:

‘Why should we measure building performance?

Office buildings are substantial investments for developers and for tenants. They are more than that: current changes in the new financial services sector in the City have made it apparent that office buildings and their mechanical and electrical services are critical to commercial success. Without the right kind of office space and a sufficiently powerful and flexible infrastructure of building services it will be impossible to create the new financial industry.

And yet very little accurate, consistent and comparative information is available for organisations about to spend millions on the construction or leasing of office space. More information is available on more variables and in a more consistent fashion in Motor to someone about to spend £10,000 on a new car, or in Which to a householder about to buy £1000 of domestic appliances, than to a multinational on the brink of investing £10,000,000 or £100,000,000 on a new office building upon which commercial success depends. The purpose of this comparison of eleven contemporary office buildings in the City of London is to remedy the dangerous lack of information about building performance. The data presented here are not about how buildings are constructed, but about they can do — what capacity they have to accommodate the new kinds of City organisations. Comparisons are made in a form, common enough in evaluating other kinds of product, which allows readers with little technical knowledge of building construction to evaluate whether the buildings will be able to meet their operational requirements now and in the future. The implication of this approach for users is that they can specify more exactly the kinds of buildings they want’.

The document presented a series of precisely measured and neatly presented tabular, figurative and illustrative comparisons of various aspects of performance, all derived, of course, from criteria expressed by users in the financial services sector:

- (1) location, accessibility and image;
- (2) quantity and efficiency of space provision, especially the proportion of usable space;
- (3) shape and space planning potential (eg potential for cellular and open-plan space);
- (4) building services provision and capacity for rearrangement and for the provision of additional capacity;
- (5) provision of support facilities (eg parking, shopping, restaurants and other service);
- (6) timing and availability.

Perhaps the most lastingly useful part of *Eleven Contemporary Office Buildings* is the glossary containing definitions of all the measures used in the report. These were unusually rigorous at the time of publication. Many are still relevant today.

A second manifestation of DEGW’s approach to Building Appraisal is a more ambitious but somewhat less successful document: the book that Alex Henney and I wrote and published in 1989, *The Changing City* (Duffy and Henney, 1989). This was an encyclopaedic attempt to profile in one document the essential space requirements of the main sectors occupying office space in the City of London — Investment Banking, Foreign Commercial Banking, the British Clearing Banks, the London Insurance Market, City Solicitors, Accountants and other companies that service the financial services sector — and to relate the full range of their requirements to a categorisation of all the types of space and building configurations that would ideally be required to accommodate them. There are two reasons this book is relevant to this review of various aspects of Building Appraisal. First, in attempting it, we demonstrated the complexity and variation of the pattern of demand for office space. Secondly, in retrospect, the unintentionally very aptly titled *The Changing City* vividly illustrates and is itself a measure of how rapidly the space requirements of the changing City have altered over the last 20 years and will continue to change presumably until the end of time. Certainly in this particular field of architectural endeavour nothing stays constant for very long.

BUILDING APPRAISAL VERSUS DESIGN GUIDELINES

Design Guidelines have always played an important part in architectural practice. They provide basic data for what used to be quaintly called 'the man at the drawing board'. DEGW's first book, *Planning Office Space* (Duffy *et al.*, 1976), originally published in the early 1970s as a series of technical guides on various aspects of office planning and design in the incomparable *Architect's Journal* Information Library Series, was just such a design guide. Today, in the field of office design in the United Kingdom, the best known and most reliable guide to office design is the British Council of Offices' own current document, *The BCO Guide* (British Council of Offices, 2005).

The fundamental problem common to both Design Guidelines and Building Appraisal is erosion of validity — well illustrated by the experiences sketched above. Paradoxically, entropic decay of design data seems to be particularly inevitable in both, since office design is such an unstable, ever-developing and open-ended field.

Of the two approaches described above, Design Guidelines may be the more dangerous, however, because of the unintentional assumption of timelessness that seems to be the inevitable fate of authoritative, professionally backed, committee generated documents. The problem is essentially that, in the quest to produce guidance to help architects and others to satisfy codes and regulations and to assure best practice in design and construction of office buildings, common wisdom prevails, and certain underlying questions tend to be brushed aside:

- (1) What are office buildings for?
- (2) How do we know that they have achieved their purpose?
- (3) What criteria are necessary to judge various aspects of their performance?
- (4) What will happen to office design if purposes and criteria change?

In other words, Design Guidelines, however helpful they can be in a stable business and technological environment, can be very misleading and even dangerous when things change. That, in office design, as we approach the end of the first decade of the 21st century, is exactly where we are today.

THE IMPORTANCE OF PURPOSE

What I should like to revive in this time of change, once again stimulated by more and more exciting technological advances, is the open, sceptical, enquiring spirit that characterised the early 1980s at Broadgate and in Stockley Park, when office design was rethought by bringing users more centrally into the briefing and design process. The lesson for today is that *purpose* and *context* need once more to be brought back centrally into office design.

One way of approaching this goal has emerged in the last four years in the course of DEGW's work (with an excellent group of other consultants) for the US General Services Administration, the body responsible for housing all departments of the Federal Government (Kampschroer and Heerwagen, 2005). This is to use a version of a standard business model as an evaluative framework — the well-known 'Balanced Score Card' (Kaplan and Norton, 1996) — to remind ourselves as designers and our clients as users that any business proposition, including the design of the working environment, must be evaluated not just simply on internalised design or delivery criteria, nor, as happens all too often, on simplistic, developers' economic criteria, but in relation to the four kinds of purpose that have to be addressed in achieving any office design project:

- (1) *Financial criteria*: Is the expected return likely to justify the investment?

- (2) *Business process criteria*: To what extent will the proposal facilitate the means by which the objective is achieved?
- (3) *Human capital*: What are those involved in achieving the business objective likely to get out of it?
- (4) *Customer criteria*: How will the customers benefit from the proposal?

In relation to each of these four distinct kinds of purpose, there are three kinds of measurable potential that office design can offer:

- (1) More or less efficiency, that is, the ratio of the physical effort expended to the output achieved — for example, how many square metres of office space are needed to accommodate how many people?
- (2) More or less effectiveness, that is, what added value can design imagination achieve? — for example, creating more open, three-dimensional layouts that make interdepartmental interaction more probable.
- (3) More or less powerful expression, that is, what does the design say is important and to whom — for example, does an office interior tell people that they are valued? Do office exteriors express the client's brand consistently?

The office itself as a building type can no longer be taken for granted in an increasingly virtual world, and has to be justified in terms of what place actually achieves. Had the framework sketched above been available 20 years ago, how much more rigorously would we have been able to run our user groups, and how much more powerfully would we have been able to express our findings.

APPRAISING BUILDING APPRAISAL

Office buildings are inert. They do nothing very much on their own — except perhaps, if you are unlucky, damage your health or make you bankrupt. It is how they are used by clients and users to achieve their business objectives that really matters.

It is only when context and purpose are made continually central to design discourse that architects and designers will be fully equipped to evaluate what they have proposed and achieved, and to imagine what office buildings ought to achieve for society. Both context and purpose, of course, are subject to continuing change.

Too many post-occupancy studies turn into retrospective snagging exercises — not without a certain utility, but not, in my opinion, sharply enough directed to communicate findings in ways that will change clients' behaviour. Too many 'Building Appraisals' turn in on themselves and become catalogues of failure and error rather than inspirational documents that ask fundamental questions and stimulate aspirations for a better future.

I write, of course, about what I know most: the design of the working environment, which at this moment in history is particularly susceptible to change because of continuing and accelerating advances in IT. This is nothing new. The history of the office as a building type has embraced many variants: the Greek Agora, the Roman Forum, the Uffizi of the Dukes of Florence, the Inns of Court and the taverns and coffee houses of Fleet St. and the Strand, Somerset House, the first purpose-built office building in London, the Reform and other London clubs, and eventually Oriel Chambers in Liverpool and the Reliance Building in Chicago, two of the earliest recognisably 'modern' office buildings. The office building in its present conventionally recognised forms is little over 100 years old. Such typologies come and go. Today even branches of Starbucks should be classified as offices, and hence the critical importance of understanding changing contexts

and purposes in evaluating office architecture. Without the continuing articulation of context and purpose, technical feedback is meaningless.

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