SECOND EDITION

DESIGN MANAGEMENT
FOR ARCHITECTS
STEPHEN EMMITT

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Second Edition

Stephen Emmitt

Professor of Architectural Technology
Loughborough University

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Preface

It was during the 1960s that the architectural profession in the UK started to take the issue of management seriously. The RIBA's report *The Architect and His Office* (1962) highlighted the architect's lack of managerial acumen, which resulted in the subsequent publication of many guides, such as the RIBA Plan of Work and *Architect's Job Book*. This early work has been continually revised and updated over the years, providing architects, architectural technologists and technicians with essential guidance to the administration of individual projects. Interest in the management of design has also been growing, with the growth of the design management literature and the evolution of the design manager role within the fields of architecture and construction. Parallel to this has been the growth and evolution of construction management literature, which more recently has started to expand into the areas of design management and briefing. Since the 1960s there have been considerable changes in our approach to the management of construction projects and, despite many good examples of how to manage the processes effectively and professionally, we still see reports urging us to do it better. In addition to the reports and initiatives aimed at the construction sector, there have also been a small number of reports aimed specifically at architects. These have emphasised the need for better management of design activities and design offices, while also raising questions about how, and what, architects should be taught. Whatever our view, it is difficult to ignore the fact that our fellow professionals leave university with a thorough understanding of how to manage projects and commercial enterprises. The result is that architects often find it difficult to relate to their fellow project contributors

and frequently find themselves excluded from important decision-making stages at pivotal stages in the life of a project. Architects have a significant part to play in the realisation of creative and exciting buildings, but this is difficult to achieve when positioned outside the management culture. It is imperative in a highly competitive business environment that architects are able to demonstrate professional management skills and leadership competences to their clients and hence retain (or regain) an important place in the planning and management of our built environment. Similarly, it is fundamental that architects are able to communicate with fellow professionals in an environment of greater collaboration and integral working; this requires an understanding and appreciation of management.

As students we spend a great deal of time, effort and emotional energy on learning to design, only to find that on entering practice we are suddenly constrained by many different pressures and controls. Administration seems to be endless and managerial controls too restrictive. Frustration is immediate, not necessarily because there is less time to devote to design, but because we have inadequate grounding in the management of design. My own managerial skills were honed in architectural practice through experience (good and bad), combined with reading many books and articles on management, and, when time permitted, reflection on daily practice. At the time there were few publications that dealt with managing the complexities of design and/or creative architectural practices. Books aimed at architects were primarily concerned with the administration of individual projects, not with the management of creative staff, nor for that matter with the interrelationship between the project portfolio and the office – a situation that has changed little over the years. My aim was to write a book that would be pertinent,

stimulating and above all useful for architects entering architectural practices, essentially the type of book that I would have welcomed when starting out. The approach taken is to address the synergy between the management of projects (Part One) and the management of design offices (Part Two). It is the interdependency of architects' and clients' businesses, represented in projects, that colours, shapes and determines the quality of our built environment. The premise is that to be successful we need to ensure that projects are managed professionally and are conceived and delivered within a professionally managed office. It is through effective management of the design office and the project portfolio that client values may be translated into a physical artefact with minimal loss of creativity.

This book has been a complex and lengthy undertaking, bringing together many, often disparate, areas under one set of covers. The ideas and concepts presented were first developed when I was working as a design manager in an architect's office and were subsequently refined through interaction with a wide variety of construction professionals in practice and academia. The academic environment has allowed time and space for the ideas to be researched, tested and developed further.

Since the first edition of this book was published there has been a significant change in the way the construction industry is using information communication technologies (ICTs) and building information modelling (BIM). In particular, BIM changes the way in which project contributors interact, requiring a more collaborative, open and, one might argue, trusting relationship. Combined with the move towards integrated project delivery, leaner processes and the rapid uptake of the (construction) design manager role by contracting organisations, the environment in which architects operate has been evolving. No longer is design, or for that matter the management of design, the

exclusive domain of architects in a collaborative, digital, marketplace. In this edition I have tried to show how such changes are an opportunity for architects (and the architectural profession as a whole) to take a fresh look at their roles and the services they offer their clients. Working on the Second Edition has also given me the chance to respond to readers' feedback, clarify the content and better emphasise the role of the design manager from an architect's perspective.

I am very conscious that the way in which architectural practices and projects are managed is heavily influenced by context, prevailing socioeconomic conditions, technologies and people. There is no one best approach; no easy answer, no quick fix. Instead a lot of time and effort is required to build effective ways of working and demonstrate leadership. As professionals we can never be content, nor complacent; there is always room for improvement in process and application, no matter how major or minor, as we strive for perfection in everything we do. I encourage readers to take the issues presented here, think critically and apply and/or adapt them to suit their own, very special, context.

Stephen Emmitt

About the Author

Stephen Emmitt, BA(Hons), Dip. Arch, MA(Prof. Ed.), PhD, is Professor of Architectural Technology at Loughborough University. He is a registered architect with industrial experience gained in a wide range of architectural practices. He formerly held the Hoffmann Chair of Innovation and Management in Building at the Technical University of Denmark and is currently Visiting Professor in Innovation Sciences at Halmstad University, Sweden. Teaching and research interests cover architectural practice, design management, architectural technology, architectural detailing and innovation in construction. Stephen has taught and facilitated design management workshops in the UK, Europe and Asia.

  As an architect Stephen worked as a design manager, responsible for the effective and efficient delivery of projects and the strategic management of the architectural office. Responsibilities centred on two areas: the effective interface between design and production, and the efficient management of the project portfolio. Application of process and product innovations was central in the drive for consistent management of the architectural office and consistent service delivery to clients. It was this experience that led to his first book in 1999, *Architectural Management: A Competitive Approach*, since which time he has authored and edited many books on architectural management and architectural technology, in addition to over 120 peer reviewed articles. Recent books on design management include *Architectural Management: International Practice and Research* and *Collaborative Design Management*.

  Stephen has been an advocate for better management for architectural practice since the 1980s. He served on the

Manchester Society of Architects' Professional Practice Group and then joined the CIBW096 Architectural Management Group in 1994, since which time he has been an active member, first as Press Officer and more recently as Joint-coordinator of the Group. He is currently a member of the Chartered Institute of Builders' (CIOB) Design Management Working Group. It was the experience of teaching management to architectural students that identified the need for a simple and straightforward guide to design management – the primer for the first edition of *Design Management for Architects* – which was translated into Chinese in 2011. This Second Edition has been extensively rewritten in response to further student feedback and rapid evolution of design management in architecture.

Current Wiley Blackwell titles by Stephen Emmitt:

Architectural Management: International Research and Practice
Architectural Technology, Second Edition
Architectural Technology: Research and Practice
Barry's Introduction to Construction of Buildings, Third Edition
Barry's Advanced Construction of Buildings, Third Edition
Construction Communication
Principles of Architectural Detailing

Chapter One

Why?

Architects play a pivotal role in the delivery of value to their clients, building users and community alike. The unique value architects add to their clients' lives and businesses is grounded in an ability to deliver something that their competitors cannot: design vision. Design ability is, however, not enough in a highly competitive market as clients seek suppliers who can provide a professionally managed service, effectively and quickly. This means that architectural practices need to constantly monitor the business environment in which they operate and continually improve the way in which they approach the business of design. Design management plays a crucial role in this regard, helping professional design offices to deliver a consistent level of service, which in turn helps the business to secure a continual flow of finance, return a profit on its projects and provide a platform for creating great architecture. However, there may be some doubts in the minds of architects as to the true value of management to their profession. Therefore, this introductory chapter seeks to explain why management and design management is so important to the modern architectural business. This helps to provide some context to the chapters that follow.

Why management?

Architectural practice is a 'conversation' with projects and society – a process of testing, developing, applying and

reflecting on design knowledge. Architects learn from projects and from the work of others by developing ideas, propositions and ways of working to suit the culture of their office and the needs of their clients. We develop a way of working, a type of (architectural) language, which becomes ever richer over time. This informs the practice of architecture, which flexes and adapts to each new project. The way of working also informs the business of architecture, a parallel (commercial) language that underpins and nourishes the language of architecture.

Good design management should be one of the core values of a successful architectural practice, the controlling mechanisms that allow the chaotic creative process to be transformed into fee generating activities. Management is, however, often seen as a way of coping with the chaos of design rather than something that adds value to the business. Indeed, it is not uncommon for the business aspects to be viewed as a 'necessary evil', with the vast majority of professional designers preferring to concentrate on design rather than business. This could be interpreted as architects' reluctance to embrace management, although it is rarely so clear-cut given that elements of management are inherent to all projects. It is not easy to divorce the act of designing from the business of design, although this is rarely acknowledged in architectural education (which tends to ignore management issues); nor is it particularly well demonstrated in the architectural literature.

The stereotypical view, which architects' competitors like to promulgate, is that creative designers lie outside the bounds of managerial control. This is a convenient image for some designers to hide behind when it suits. It is true that creative people do not respond particularly well to tight control and the tick-box mentality of many management approaches. The challenge appears to be less with the concept of management *per se* and more with applying

sensitive and appropriate managerial frameworks. Managerial principles and methods should place minimal demands on the designer and provide adequate space to accommodate the inherent uncertainties that come with design projects. At the same time the managerial frame should provide guidance to the individuals who work within the office and hence reassurance to the clients who commission the work. Good managerial frameworks tend to be relatively simple and largely invisible. Poor managerial frameworks tend to be unnecessarily complicated and highly visible because they disrupt the way in which designers like to work.

According to many research reports and anecdotal feedback from clients, it is the managerial skills that architects need to improve. One indicator of the architect's lack of managerial acumen can be found in the reports issued by the Architects Registration Board (ARB). Their annual report of 2004/5 presented a list of the ten most common complaints it receives from clients. The ARB advises architects to adhere to the Architects Code as one way of avoiding the pitfalls that can result in an appearance before the Professional Conduct Committee. Following good management practices and procedures also helps, since all of the complaints listed by the ARB are concerned with management (and the failure to communicate). These complaints are listed below with a brief comment on how to avoid them.

1. *Excessive delay in the project being completed.*
The problem here is primarily related to poor predictions of project duration and the failure to discuss with clients the potential reasons for delay. Architects must make it clear to clients how the project duration has been calculated and by whom. They must also explain the measures put in place to try and ensure projects will be complete to the planned timeframe. If progress starts to

suffer then the architect must be proactive and advise the client, and if appropriate take measures to get the project back on programme.

2. *Client expectations were raised too high.*

Raising client expectations too high can occur as the architects discuss design possibilities that are beyond the scope of the budget (and the brief). Having a good knowledge of realisation costs can help to mitigate unrealistic expectations. Similarly, bringing specialists early into the design phase can help with the realistic estimation of construction costs as the design matures.

3. *The client was expected to pay for mistakes/errors made by the architect.*

Architects must be open with clients and acknowledge when they have made a mistake. Using quality management systems and good design management practices will help to mitigate the number and extent of errors, although it is impossible to eliminate all problems. Tracking the cause of design changes and variations will help to identify those that were a result of an error and those requested for other reasons. Adopting a collaborative approach may go some way to sharing responsibility for errors and the cost of rectifying them.

4. *Contract papers were not clear.*

There should be no excuse for failing to set out fees, roles and responsibilities clearly and concisely before work commences. This is required by the client and also for the smooth running of the office. A short meeting with the client to discuss contract papers before the project starts can help to avoid uncertainty and problems at a later date.

5. *Attempted work outside area of competence.*

Architects must clearly state the extent of services that they are experienced and qualified to undertake. This varies considerably between architectural practices, and

clients cannot be expected to know the scope and limitations of the services on offer. Open and frank discussions with the client can help to explore areas of uncertainty and identify the need for additional services from fellow consultants.

6. *Failure to reply to the client's letters/emails and/or telephone calls.*

According to ARB, communication problems are the cause of many complaints. One of the biggest complaints is the failure to advise clients about increased costs. All professionals should have a clear policy on how they respond to communications from clients and project participants, and this should be set out in the quality plan and/or office manual. Failure to reply is unprofessional and bad business practice. Good architectural practices tend to be proactive in tackling problems and taking the initiative to contact clients before they discover the problem from another source. This is about managing the client/architect relationship, which can be helped by bringing the client into the project at strategic intervals, for example at design reviews.

7. *Failure to deal with post-completion issues.*

The failure of architects to deal with problems that arise after completion of the project and the payment of fees is not a sensible policy. Quality of the 'after sales' service will be instrumental in helping to retain and further develop a positive architect/client relationship, which will influence the possibility of future work from that client. The problem is usually that the fee has been spent and the resources are not always available to deal with the post-completion issues. Accurate estimation of design effort and the allocation of resources to post-completion issues are essential management functions, which allows the office to function efficiently and helps to ensure that

enough time remains to maintain a professional service after project completion.

8. *Clients given bad advice.*

This tends to relate to architects advising the client on matters outside their scope of expertise, for example on engineering matters and financial/VAT issues. This can be avoided by clearly setting out the extent of the services provided and also defining areas that are not covered by the fee agreement. This is best done via face-to-face discussion and confirmed in writing.

9. *Conflicts of interests.*

All business relationships, for example with contractors, must be declared to clients early in the appointment process. Clients expect their professionals to be open about such matters and with many architectural practices working with formal and informal alliances, it is particularly important to be clear about how such relationships may influence the client's project.

10. *Work delegated to juniors.*

It is common for projects to be secured by partners and directors, and after some initial involvement by them, for the work to be delegated to design managers and the less senior members of the office. This is common practice in all professional service firms, but the failure to explain how the work will be handled within the office can cause problems with the client, who may be expecting the partner to work on the project, not a junior.

Adopting a professional and consistent approach to the management of the architectural practice and its projects may not eliminate all problems, but it will help architects to avoid the problems reported above and will go some way to keeping clients happy. Adopting a consistent approach to management will also help the business, as demonstrated in Vignette A.

Vignette A – why apply management?

By looking at the performance of two architectural practices it is possible to further address the question: why management? The architectural practices were both located in the same metropolitan area, were the same size and had similar mixed project portfolios. From the perspective of a client there appeared to be little to differentiate them. Indeed, a large client body decided to appoint each practice to work on a project. The projects were comparable in size, complexity and programme, and the outcome of the competitive tendering processes resulted in the same contractor being appointed for both projects. This allowed the possibility to make some comparisons between the two architectural practices in terms of their performance.

From the outset of the monitoring period one of the architectural practices appeared to be more efficient and effective than the other, that is it gave the impression of being well managed. Office A delivered information on time, responded rapidly to requests for information, dealt with design changes quickly and interfaced very well with the contractors and the client representative, resulting in a high quality project, delivered on time and to budget. Office B was consistently late in supplying information (which was often incomplete), was slow in responding to requests for information and dithered over design changes. The amount of communication between the architect and the contractor was considerably greater compared to that with Office A, mainly a result of trying to deal with issues that should have been right first time. This project was also completed on time and to a high quality, due mainly to the contractor's efforts, but it

was slightly over the original budget. The final artefacts (the quality of the design) were not very different, although the effectiveness of the projects differed markedly, as did the profitability of the architects and the contractor.

On the first project, both Office A and the contractor reported a profit. On the second project, Office B claimed that the project had been a financial disaster, (unfairly) blaming the contractor and the client. On this project the contractor also claimed to have lost money, mainly because of the poor service delivered by Office B. The client and the contractor reported that they would welcome the opportunity to work with Office A again, but not Office B. Indeed, a few months after the projects were completed the client commissioned Office A to work on two new projects, but not Office B, preferring to give a different architectural practice a chance to demonstrate their worth.

What made one office more successful than the other? Office A was well managed, employing appropriate management systems and the staff was happy using the office management protocols, which had been designed to help them do their job more effectively, efficiently and consistently. Office B also had a management system, but few of their staff used it because it was regarded as too cumbersome and time consuming, resulting in inefficient working practices and an inconsistent service for their clients. Although it was not possible to obtain any financial data from the owners of the architectural businesses, Office A claimed to be 'doing okay' in the middle of an economic recession, while Office B claimed that it was 'almost impossible to make a profit' on their projects, citing low fee levels as the problem. In conversations

with the owners of the business it was clear that Office A understood the benefits of simple, yet well designed, manage ment protocols: Office B did not. Office A regarded manage ment of design (as a process and a product) as being essential to everything they did, that is it was integral to their daily activities; Office B saw management as something additional to the design of buildings, and hence had failed to integrate management and design. In addition to the financial implications for the businesses, the difference in managerial approaches was also evident in the morale and wellbeing of the staff. The staff in Office A appeared to be happy in their work, and when questioned reported that they were content and that the management procedures of the office helped them to do their job more effectively. The atmosphere in Office B was less positive, with the staff reporting high levels of stress and claiming to have to work very long hours to complete their tasks.

Why design management?

It is not necessary for every member of an architectural practice to be a business executive, or for that matter passionate about management, but it is important that architects understand the commercial environment in which they work and the value of managing design consistently and efficiently. The challenge for the business owners is not to impose restrictive managerial and administrative constraints on creative individuals; rather it is to provide better, more appropriate, management that both supports the creative process and facilitates the delivery of an excellent service. To do this it is necessary to understand

the value of good design management and the role of the design manager, the rationale behind this work.

In many small and medium sized architectural offices it is the owners (directors, partners and associates) who manage and oversee design quality, which is often performed in a 'hands on' manner. Close proximity of staff within an intimate environment allows informal exchange of knowledge and relatively consistent standards of work. There may be little in the way of formal procedures and reporting, but because the office is small all staff should know what is required from them. In medium to large offices it is more likely that one or more individuals will be designated 'design manager', overseeing design quality on behalf of the business owners, acting as the interface between the owners and the staff working on the projects. Because of the size of the offices it is less easy for staff to interact on such an intimate level and so it is necessary to state what is expected of the staff (and the design manager) in the office handbook or via quality management documentation. These expectations will be reinforced via daily interaction, and more formally in office meetings. In Vignette A neither of the architectural offices employed a design manager, although the role was performed implicitly by the owners of the more successful business (Office A).

The design manager role first appeared in the 1960s, although it has not been particularly common for architectural practices to employ design managers. Instead it has been the contractors who have embraced the design manager role, with construction design managers now a common sight in the majority of the large to medium sized contracting organisations. Together with changes in procurement routes and the uptake of technologies such as BIM this has resulted in contractors taking on greater responsibility for design, often pushing the architects out of the decision making process. This may have implications for

the overall quality of the building design as well as implications for the architect's business. More recently architectural practices have started to respond to the changing market and have started to employ design managers and/or to explicitly promote their design management services.

The role of the design manager

At a strategic level, design managers are responsible for all aspects of design. Although the role encompasses many project management skills, a passion for design quality makes the role unique. It is the design manager who is employed to oversee (manage) all design activity within the office and to ensure a consistent and coordinated approach to every project in the project portfolio. This relieves the designers and engineers of unnecessary administrative and managerial burden, allowing them to concentrate on what they do best: design and engineer. To be effective in the role design managers need to understand how designers, engineers and contractors work. This requires a broad understanding of a wide range of discipline-specific knowledge. He or she should also be able to communicate effectively across a broad spectrum of organisations and levels and demonstrate consistent leadership. This calls for a collaborative approach, excellent interpersonal ('soft') skills and the ability to make informed decisions on a strategic and operational level.

- *Strategic decision making.* Strategic decisions are concerned with the long-term direction of a project or an organisation. It is the strategic decisions that set the agenda for the effectiveness and profitability of each project (and hence profitability for the business). At a

strategic level the design manager will be working closely with the business owners to ensure that project and business deliverables are met.

- *Operational decision making.* Operational decisions concern day-to-day problem solving in the workplace. Operational decisions are about getting tasks completed and are concerned with the flow of resources (information, people and materials) and the adherence to processes. At the operational level the design manager will be liaising with a wide range of designers and forming the interface between the designer team and the contractors. It is the architectural design manager who will interface with the contractor's (and subcontractors') construction design manager(s).

Tension between the decisions made within the office and those made at the individual project level makes design management a fascinating, challenging and rewarding activity. Creative tension can help to stimulate innovation in product and process and fuel a proactive approach to producing great architecture. In simple terms, the design manager is tasked with the management of people, technologies, information and resources:

- *People.* Design as an activity involves interaction with a wide range of 'designers' and supporting technical staff. Design is carried out primarily within professional design offices and collaboratively within projects through the use of collaborative information technologies. The design manager needs to provide the right physical and virtual environment in which individuals can share knowledge and work together to create designs that respond to the client brief. The output of the design process is design information.
- *Technologies.* People need technologies that enhance their working lives; thus computer software and hardware have to be carefully selected to match the

requirements of the office, as do information communication technologies (ICTs) and building information models (BIMs). Establishing a good fit between the available (and affordable) technologies and those who use them will enhance performance.

- *Information.* Design involves interaction to create, review and coordinate a vast quantity of information. The design manager's role is to ensure that the information leaving the office is consistent in terms of quality, is complete and is error free. This information must be translated by constructors into a physical artefact. Once received, one of the construction design manager's most important tasks is to review the information to ensure that the building can be constructed safely and efficiently. Any queries will be addressed to the architect's design manager.
- *Resources.* Allocating the correct amount of time and the most appropriate people to a specific design task is a fundamental skill of design managers. Additional resources, such as the availability of appropriate software, ICTs and BIM will also play a part.

Design managers are first and foremost responsible for providing leadership to the designers, both within the office and (indirectly) via individual projects. In the design office environment the emphasis is on *creating* design value and transforming it into design information. In the project environment the emphasis is on *delivering* design value by translating information into a physical artefact, and is usually managed by the contractor's design manager (see [Figure 1.1](#)). These are culturally different worlds connected by a common desire to deliver value to the client and make a return on investment. Increasingly, the relationship between the designers and the contractors is being transacted by design managers employed by designers and contractors.