Value Management of Construction Projects

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Preface

Value management is the name given to a process in which the functional benefits of a project are made explicit and appraised consistent with a value system determined by the client, customer or other stakeholders.

It is exactly ten years since the publication of our previous book Value Management in Design and Construction: the Economic Management of Projects, a period during which value management has developed into a defined service and has gained recognition within predominantly the manufacturing and construction sectors of industry and academia. In the UK there is an emergent but strong uptake of value management in the service sector led by the legislated demand for best value in public services.

The past ten years have largely seen the resolution of the debate over terminology aided by the publication of standards in many countries. It is generally accepted internationally that ‘value management’, or ‘the value methodology’ in the USA, describes the entire service. Other terms, principally ‘value engineering’, describe specific parts of the service. The year 2007 will mark 60 years of the life of the value management service. During the first four decades North American thinking dominated its development. However, during the past ten years developments in principally Europe, Australasia and China (notably Hong Kong) have seen the divergence of ideas and practices which have impacted the progress of the value methodology in North America. Interestingly, over the whole period value management has continuously improved, unlike other management fads that emerge, are applied with gusto and then die to be replaced by another.

Our past ten years have been spent researching, developing and applying value management. In 1993 John Kelly and Steven Male formed an informal joint venture with Drummond Graham of Thomson Bethune, Chartered Quantity Surveyors, Edinburgh, to develop and undertake value management consultancy. Since this time the team have been involved with over 200 value management studies for a variety of private and public sector clients for projects ranging from high profile national icon structures to public sector housing, undertaken at all project stages from inception to operation/facilities management and under all forms of procurement. We have also adapted and used the value methodology for partnering studies, introducing organisational change and assisting bid teams prepare for bid submissions. The latter has proved particularly useful on PFI, prime contracting and other new procurement routes requiring
collaborative working and where large supply chain teams can often be brought together. We have also found the VM methodology particularly robust in undertaking project reviews and project briefing studies where we have assembled multi-disciplinary independent teams to work with us and alongside client representatives.

In 1996 the UK Engineering and Physical Sciences Research Council funded a team led by Steven Male and John Kelly to undertake an international benchmarking study of value management which resulted in a best practice framework document published in 1998. To date over 2000 copies of the benchmarked manual, accompanying research report and interactive CD-ROM have been sold internationally. In parallel, in-depth investigations of the underlying theories of value management as applied to construction projects have been the subject of a number of successfully completed PhD theses. This combined body of research work forms the foundation of the services, tools and techniques described in this book.

This book has been in development for some time. We have slowly but carefully recorded our own approach to the theoretical development of value management and subsequently tested each development through action research studies and consultancy.

As described in the Introduction, we have written the book to facilitate different modes of use. It will appeal equally, we trust, to the competent practitioner looking to benchmark an existing service; to construction clients, consultants and contractors looking to investigate value management further; and to the undergraduate and graduate student. Part 1 describes the background and structure of value management. The three chapters of Part 2 describe the theoretical framework within which value resides. Part 3 describes the service and its attendant professionalism and ethical issues, and also the likely futures. The extensive appendices contains a Toolbox of those techniques commonly associated with the practice of value management and also an illustrative case study.

During the past ten years we have interacted with several hundred construction clients, consultants, contractors and value management practitioners from many countries. We have taught undergraduate and postgraduate modules, run institutionally accredited value management courses and supervised research students at PhD level. In each activity we have gleaned, developed and tested theories, processes, procedures and practical tools. We are grateful to all the people and organisations too numerous to mention who have given us their time, views and insights. To any of them who think they recognise something here resulting from a comment or interaction with us we offer our special thanks.

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1 Introduction

1.1 Definition

Value management is the name given to a process in which the functional benefits of a project are made explicit and appraised consistent with a value system determined by the client.

This definition applies to all types of projects irrespective of which sector they come from. For example, the project could be the design and manufacture of a product, the design and construction of a building or infrastructure product, the re-evaluation of an organisational process or the provision of a new or improved service in banking, insurance or public services such as education or health. The factor that makes value management possible is the identification of the project. The client for the project will implicitly or explicitly establish a value system for the project. 'The client' in the context of this definition and for the remainder of this book is the person, persons or organisation responsible for the inception of the project and for its eventual adoption into the client’s mainstream business.

This book is focused on construction; however, much of the thinking, philosophy, systems, tools and techniques are as applicable to projects in other sectors.

Maximum value as defined by Burt1 is obtained from a required level of quality at least cost, the highest level of quality for a given cost or from an optimum compromise between the two. This is a useful definition because it highlights the relationship between value, quality and cost. In this book the definition of value is a relationship between time, cost and the variables that determine the quality the client seeks from the finished project.

1.2 Developments in value management

During its first four decades of life, value management developed within the manufacturing sector with only slight leakage into other areas. From the mid-1980s value management has been adopted for use as a value-for-money measure within construction industries of a number of countries. In the UK, the past two decades have seen growth in its development and practice at differing intervention points across a wide range construction project types. Over the
same period risk management has developed and is often associated with value management as a complementary service. The developments in value management have reached a plateau and therefore this is an opportune time to encapsulate the developments in value thinking in construction and record robust models for the practice of value management in construction. That future developments in value management belong to the service sector is beyond dispute.

1.3 Developments in UK construction

A fertile ground was prepared for developments in value management in the UK construction industry during the 1990s by various initiatives that sought to increase the efficiency and effectiveness of the industry.

- The Latham Report\(^2\) spawned the Construction Industry Board, which published influential works on the modernisation of the industry. Value management was seen to be conducive to good practice and received significant coverage.

- The Egan Report,\(^3\) which spawned the Movement for Innovation (M4I), took advantage of web technology to showcase examples of good practice and provided an opportunity for benchmarking through its key performance indicator database. It was influential in shifting a substantial proportion of the construction industry towards more collaborative working, an environment in which value management thrives.

- The Accelerating Change Report\(^4\) builds on the work of M4I and has established Rethinking Construction as the primary vehicle for public and private sector construction product and process advancement.

- The Office of Government Commerce has launched the Gateway process\(^5\) which, with the accompanying construction procurement guidance, describes the benefits of good practice in construction procurement in the public sector. Documents describe the place for value management within this process and this is used for illustration later in this book.

- Newer procurement systems based on framework agreements, negotiations, guaranteed maximum price cost plus projects initiated forward-thinking contracts such as PPC 2000, Defence Estates Prime Contract and the NHS ProCure 21 procedure.

The climate of the 1990s in UK construction was therefore right for the development of innovative systems such as value management. The authors’ research activity, which began in 1986 funded by the Education Trust of the Royal Institution of Chartered Surveyors (RICS), was boosted in the 1990s by further funding from the RICS and the Engineering and Physical Sciences Research Council. The latter funded a major study into the international
benchmarking of value management practice that resulted in the completion in 1998 of *The Value Management Benchmark* published by Thomas Telford.6

The benchmark was the springboard for detailed work into two areas. First, to make clear study styles and their application at particular stages of projects and relate each study style with their most commonly associated tools and techniques. Second, to investigate the concept of quality and value to understand their interrelationship and their application within supply chain thinking. This research work was carried out by the authors or under their supervision using a variety of research methods. Significant findings were made through the grounded theory approach and action research.

### 1.4 Developments in value management practice

New practices, particularly in management, bring with them the bandwagon effect. A good idea is launched into the marketplace as a new service by an entrepreneurial consultant. Recognising the good idea, other consultants offer the same service. Over time, the service assumes the trappings of standardisation, regulation and institutionalisation; clients buy from the best, which can now be distinguished, and other consultants discontinue the service.

The history of construction project management in the UK can be tracked through landmark projects, such as the construction of the National Exhibition Centre in Birmingham. At this time employment of a consultant project manager was relatively rare but soon became recognised as a better way of doing business. Within a short period of time many consultancy organisations were selling the services of project management. However, over time those unique assets that make project management special have become recognised and the activity of project management has become a specific skill. The Association for Project Management now aims to be the first point of contact for and the national authority on project management, and through the International Project Management Association (IPMA), an international authority. It aims *inter alia* to develop professionalism in project management and to achieve recognised standards and certification for project managers.

Value management activity in UK construction began three decades after the early project management consultancies. Aided by the European SPRINT programme (strategic programme for innovation and technology transfer), a European standard for value management was published, authored by a consortium of the various value associations throughout Europe. A training and qualification system entitled Value for Europe has been configured with its own European Governing Board. Within the UK the Institute of Value Management is currently in the process of developing systems and procedures, ethics and standards and a branch network. The debate on professionalism is reserved for Chapter 10.