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Nota di contenuto	Cover -- Title page -- Copyright page -- Contents -- Preface to the sixth edition -- Preface to the seventh edition -- Chapter 1: Introduction -- Structure of the book -- Objectives and contents -- Section 1 -- Section 2 -- Section 3 -- Section 4 -- Chapter 2: Quality management -- Summary -- Introduction -- Notions of quality -- Quality in transition -- Quality control and inspection -- Definition and objectives of quality control -- Controlling quality -- Quality control implemented in construction -- Quality assurance -- Evolution of QA from quality control -- Definition of quality terms -- Quality standards -- Developing and implementing quality systems -- Quality assurance in construction -- Total Quality Management -- Definition of TQM and the role of QA in the process -- Total Quality Management principles -- Development of TQM in a company -- Total Quality Management tools and techniques -- A systems approach to managing quality -- Systems quality management -- Quality schemes -- Reference -- Section 1: Project production management -- Chapter 3: Production process improvement -- Summary -- Introduction to lean construction -- Productivity -- Economic development -- Energy consumption -- Sustainability -- International environmental protocols -- UK emissions -- Productivity improvement -- Management systems -- Management

processes (BSI (2002), BS 6079-1:2002) -- Employee participation -- Worker surveys -- Supervisor delay surveys -- Work task management -- Calculation of basic time -- Synthetical estimating -- Macro key performance indicators -- References -- Chapter 4: Planning techniques -- Summary -- Introduction -- Planning in construction -- Who plans? -- The client -- The designers -- The contractor -- Planning techniques -- Bar charts and linked bar charts -- Network analysis -- Line of balance -- Other planning techniques. Programme evaluation and review technique - PERT -- Space-time diagrams -- Last Planner -- Modern construction planning -- (1) Preparing a schedule of activities -- (2) Resources -- (3) Monitoring and control -- (4) Costs and revenues -- (5) 'What if' modelling -- Data exchange -- Estimating -- Planning -- Cost control -- Valuations -- Variations -- Artificial intelligence -- Planning multiple projects -- Single versus multiple project planning -- Reference -- Appendix 4.A: Normal probability distribution tables -- Chapter 5: Workforce motivation -- Summary -- Introduction -- Motivation theories -- Maslow -- McGregor -- Process theory -- Herzberg -- Payment systems, remuneration and performance -- Non-financial incentives -- Semi-financial incentives -- Financial incentive schemes -- Principles of a good incentive scheme -- Setting target rates -- References -- Chapter 6: Project cost control -- Summary -- A cost-control procedure for construction works -- Introduction -- Fundamentals -- Systems in current use -- Hybrid cost-control system -- Cost control of modernistic-type contracts -- Points to consider when choosing a cost-control system -- Management of the carbon footprint -- Chapter 7: Management of equipment -- Summary -- Acquisition of plant and equipment -- Introduction -- The financing of equipment -- Cash or outright purchase -- Hire purchase -- Leasing -- Systematic plant selection -- The essential characteristics of a decision situation -- Example: Crane selection -- Procedure -- Computer applications -- Setting hire rates -- Conventional method of tabulating the hire rate -- Methods of depreciation -- Graphical comparison of the depreciation methods -- The effect of inflation -- Marginal costing -- Plant maintenance -- Corrective maintenance -- Preventive maintenance -- Monitoring of maintenance servicing and exhaust emissions. References -- Section 2: Business management -- Chapter 8: Project procurement -- Summary -- Introduction -- The construction process (BS 6079-1:2002) -- Stage 1. Verification of need -- Stage 2. Assessment of options -- Stage 3. Develop procurement strategy -- Stage 4. Implement the procurement strategy -- Stage 5. Project delivery -- Stage 6. Commissioning -- Stage 7. Operation and maintenance -- Contracted functions procured by the project leader/manager -- ISO/BS procurement standards -- ISO 10845-1: 2010 Construction procurement -- BS 8534 - Construction procurement policies, strategies and procedures - Code of practice -- UK Bribery Act (2010) [http://en.wikipedia.org/wiki/Bribery\\_Act\\_2010](http://en.wikipedia.org/wiki/Bribery_Act_2010) -- Appointing the team/parties to the contract -- Negotiation -- Open and closed tendering -- Stage tendering -- Reverse auction -- Public contracts and supplies -- Project manager/leader -- Project management functions -- Programme Management -- Design management and coordination -- The contract -- Contractual arrangements -- Health and safety considerations -- Categories of contract -- Separated and cooperative contracts -- Parties to the contract -- Types of separated contract -- Standard forms of agreement in use -- Management-oriented contracts -- Parties to the contract -- Standard forms of agreement in use -- Types of management-oriented contract -- Quality -- Safety -- Labour --

Integrated contracts -- Parties to the contract -- Types of integrated contract -- Standard forms of agreement in use -- Discretionary contracts -- Partnering -- Alliancing -- Joint venture -- Pooled risks -- Standard forms of agreement in use -- Performance of different contract categories -- References -- Chapter 9: Estimating and tendering -- Summary -- Introduction -- Estimating in large and small organisations -- Parties involved in estimating and tendering. The client's staff or professional representatives -- The construction contractor's personnel -- External organisations -- The estimating process -- BOQ estimating -- Decision to tender -- Programming the estimate -- Collection and calculation of cost information -- Labour -- Plant -- Materials -- Subcontractors -- Project study -- Drawings -- Site visit -- Method statement -- Preparing the estimate -- Types of estimates -- Site overheads -- Estimators' reports -- Tendering adjustments -- Submitting the tender -- Tendering with a priced bill of quantities -- Tendering without a bill of quantities -- Estimating in management contracting -- Estimating the management contractor's fee -- Use of estimating software -- Changing role of the estimator -- On-line estimation -- Characteristics of estimating systems -- Methods of estimating -- Add mark-ups -- Reports -- Reference -- Chapter 10: Competitive bidding -- Summary -- Introduction -- Part 1: A brief review of bidding strategy -- Background -- Nature of bidding in construction -- Review of conceptual bidding models -- Part 2: The importance of accuracy in estimating -- The effect of estimating inaccuracies -- The effect of improving the accuracy of estimating -- Part 3: Some ways of using the existing theories -- Number of bidders -- Differences between contractors' average bids -- Differences between contractors' behaviour patterns -- Success-rate sensitivity to change in mark-up -- Advice on the data to collect for analysing competitors' bids -- Improving estimating accuracy -- Data supporting estimators -- Recent developments in bidding -- Changing client requirements -- Bidding for consultants -- Bid/no-bid decision -- Electronic bidding -- Client evaluation of bids -- Tender evaluation -- References -- Chapter 11: Company budgetary control -- Summary -- Introduction -- Preparation of budgets. Classification of costs -- Costing -- Example of budgetary control -- The carbon footprint -- Recording of emissions -- UK Energy Efficiency Scheme -- Budgeted values and variances -- Chapter 12: Cash flow and interim valuations -- Summary -- Introduction -- The need for cash flow forecasting by contractors -- The requirements of a forecasting system -- The data needed -- The company cash flow -- Capital lock-up -- The factors that affect capital lock-up -- Margin -- Retentions -- Claims -- Front-end rate loading -- Overmeasurement -- Back-end rate loading and undermeasurement -- Delay in receiving payment from client -- Delay in paying labour, plant hirers, materials' suppliers and subcontractors -- Company cash flow -- Interim valuations and cash flow -- Measurement of work contained in the bill items -- Procedure in a bill-of-quantities contract -- Other forms of contract -- Price adjustment -- Measurement of work in activities -- Computers and cash flow -- Cash flow forecast by standardised models -- Concluding remarks -- References -- Chapter 13: Economic assessments -- Summary -- Introduction -- Interest -- Economic comparisons -- Present worth -- Equivalent annual costs -- Profitability measures -- DCF yield -- Net present worth -- Limitation of net present worth -- Limitation of DCF yield -- Other methods of project evaluation -- Inflation -- Present worth -- Yield calculations -- Accuracy of future estimates -- Sensitivity analysis -- Risk analysis -- Financial modelling -- Financial modelling packages -- Modelling and

risk analysis -- Life-cycle costing -- Cost-benefit analysis -- Some worked examples -- An example demonstrating the inclusion of corporation tax -- Including an investment grant -- Example of optimal replacement age based on minimum equivalent annual costs. Example showing the effect of interest rates on present-worth calculations.

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## Sommario/riassunto

This new edition of a core undergraduate textbook for construction managers reflects current best practice, topical industry preoccupations and latest developments in courses and fundamental subjects for students. While the construction process still requires traditional skills, changes over recent decades today demand improved understanding of modern business, production and contractual practices. The authors have responded accordingly and the book has undergone a thorough re-write, eliminating some of the older material and adding new processes now considered essential to achieving lean construction. Particular emphasis is given, for example, to supply chains and networks, value and risk management, BIM, ICT, project arrangements, corporate social responsibility, training, health and welfare and environmental sustainability. Modern Construction Management presents construction as a socially responsible, innovative, carbon-reducing, manager-involved, people-orientated, crisis-free industry that is efficient and cost effective. The overall themes for the Seventh Edition are: Drivers for efficiency: lean construction underpinning production management and off-site production methods. Sustainability: reflecting the transition to a low carbon economy. Corporate Social Responsibility: embracing health & safety, modernistic contracts, effective procurement, and employment issues. Building Information Management: directed towards the improvement of construction management systems. The comprehensive selection of worked examples, based on real and practical situations in construction management and methods will help to consolidate learning. A companion website at [www.wiley.com/go/MCM7](http://www.wiley.com/go/MCM7) offers invaluable support material for both tutors and students: Solutions to the self-learning exercises PowerPoint slides with discussion topics Journal and web references Structured to reflect site, business and corporate responsibilities of managers in construction, the book continues to provide strong coverage of the salient elements required for developing and equipping the modern construction manager with the competencies and skills for both technical and business related areas.

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