

Unit 8: Construction Financial Management

Unit code:	K/504/4352
QCF level:	6
Credit value:	15

Aim

This unit gives learners an understanding of the methods used to determine the price of a proposed construction project. Learners will calculate realistic cost estimates and evaluate relevant commercial factors in order to produce a tender submission. Learners will understand and apply the processes needed for the successful financial management of a construction project through managing and controlling income and expenditure.

Unit abstract

To establish the overall cost of a construction project, initially it is important to estimate the cost of the required works through calculating the quantity of work to be undertaken and then costing these works by using appropriate data and by analysing quotations for elements of the work. It is important to have a thorough understanding of the required work, the contractual framework within which the project will be undertaken and other commercial considerations in order to arrive at a cost for a project.

Once underway, the finances of the construction operation need to be managed effectively. Costs incurred must be recorded and payments made and received according to contractual requirements. The financial performance of the project should be monitored closely and managed appropriately to ensure that it is a financial success. This will involve the production of cash flow forecasts, cost forecasts and cost value reconciliations to monitor performance and profit levels. Work and construction methods will also be considered through the application of value management to ensure that the completed project meets the client's success criteria.

To ensure learners are able to successfully manage the financial performance of a construction project, it is important that they have the knowledge and ability to establish accurate estimates of cost and make appropriate decisions regarding price levels. Learners need to be able to manage the finances of a project under construction to ensure resources are procured effectively, the project is constructed efficiently and that payments are made and received appropriately in accordance with the relevant contractual arrangements.

Learning outcomes

On successful completion of this unit a learner will:

- 1 Understand the methods used to determine the price of a proposed construction project at tender stage
- 2 Be able to evaluate a tender submission for a proposed construction project element
- 3 Understand the processes necessary for the successful financial management of a construction project
- 4 Be able to apply financial management processes to a construction project.

Unit content

1 Understand the methods used to determine the price of a proposed construction project at tender stage

Methods of quantification: unit measurement; elemental measurement; approximate quantities; Bills of Quantities; standard methods of measurement; recording dimensions (manually, electronically)

Cost categories: labour; plant; material; sub-contractors; provisional sums (PS); prime cost (PC) sums; preliminaries, e.g. fixed costs, time-related costs; overheads; profit; contingencies

Sources of information: previous projects; cost analyses, e.g. Building Cost Information Service (BCIS); cost information, price books; in-house data; manufacturers' literature; trade periodicals; output data; professional judgement

Cost factors: project related, construction methods, programme requirements, supervision and management required; contract related, e.g. conditions, contract period, liquidated damages, insurances, payment periods, retention; commercial factors, e.g. client, consultants, contractors (main, sub, nominated/named), workload, market levels, past performance; necessary adjustments, location factors, seasonal factors, currency of information; competition; risks, technical, design, financial, skills, managerial, procurement; estimating software; value management workshops; Building Information Modelling (BIM)

2 Be able to evaluate a tender submission for a proposed construction project element

Quantification: recording dimensions (manually, electronically); standard methods of measurement; good practice in recording dimensions; assumptions

Costing: cost categories (labour, plant, material, sub-contractors, provisional sums, prime cost sums, preliminaries, overheads); waste allowances; use of appropriate information sources; site visit; enquiries and quotations; unit rate estimating; operational estimating; spot items; pre-tender programme; site set-up; temporary works; construction methods; value management, e.g. value engineering; estimating software; risk allowances

Tender submission: bidding strategy; submission documentation; tender qualification

Tender adjudication: consideration of project-related, contractual and commercial factors; profit

3 Understand the processes necessary for the successful financial management of a construction project

Financial management processes: budgets; cash flow forecasts; procurement; cost recording; cost forecasting; valuations; payments (receiving and making); cost/value reconciliation (accruals); costing variations; final accounts; contractual claims

Contractual procedures: valuation; payment certificates; retention; variations; delays; practical completion; extensions of time; compensation claims; liquidated damages; defects period; dispute resolution solutions

4 Be able to apply financial management processes to a construction project

Payments: measurement; valuation; preliminaries; variations; invoices; discounts; payment terms; retention; contra-charges; payment notices; liquidated damages; contractual claims; extension of time

Financial performance: budgets; cash flow forecasts; cost recording; cost forecasting, e.g. final cost; final project duration; cost/value reconciliation (accruals)

Cost information: value management, e.g. value engineering; cost benefit analysis; cost reports; reprogramming; resource levelling; resource smoothing; use of cost information in negotiation; how much a particular item cost recorded for future pricing

Learning outcomes and assessment criteria

Learning outcomes On successful completion of this unit a learner will:	Assessment criteria for pass The learner can:
LO1 Understand the methods used to determine the price of a proposed construction project at tender stage	1.1 Justify the methods selected to establish quantities of work required to construct a project 1.2 Contrast cost categories involved in establishing an estimate of the cost of a construction project 1.3 Critically evaluate sources of information available to establish the cost of a construction project 1.4 Critically analyse the factors to be considered when establishing the price of a construction project
LO2 Be able to evaluate a tender submission for a proposed construction project element	2.1 Calculate quantities of work required to construct a proposed project element 2.2 Calculate the cost of constructing a proposed project element 2.3 Evaluate a tender submission for a proposed project element 2.4 Compile a tender adjudication report
LO3 Understand the processes necessary for the successful financial management of a construction project	3.1 Critically evaluate the financial management processes that are available for a given construction project 3.2 Critically analyse the contractual procedures which relate to the financial management of a construction project
LO4 Be able to apply financial management processes to a construction project	4.1 Compile payments for work carried out on a complex project 4.2 Report on the financial performance of a construction project 4.3 Critically appraise cost information for item banks

Guidance

Links to National Occupational Standards, other BTEC units, other BTEC qualifications and other relevant units and qualifications

The learning outcomes associated with this unit are closely linked with:

Level 4	Level 5	Level 6
Unit 16: Measuring, Tendering and Estimating for Construction and the Built Environment (R/601/1274) Unit 18: Measurement Processes for Construction (H/601/1277)	Unit 11: Contractual Procedures and Procurement for Construction and the Built Environment (T/601/1266) Unit 23: Advanced Measurement for Construction (T/601/1283)	Unit 11: Commercial Management in the Construction Industry (A/504/4355)

Essential requirements

Learners will need access to specialist measurement and estimating software.

Delivery

Delivery of this unit could be based on using practical workshop-based activities to enable learners to undertake measurement and costing exercises (manually and using appropriate specialist software) and scenario-based activities to demonstrate the processes and procedures required to successfully manage the finances and contractual aspects needed for a construction project.

Formal learning will be restricted to the explanation and discussion of the theoretical aspects of the unit to enable learners to undertake the practical activities and assessments.

Assessment

Assessment should be based on practical, scenario-based activities where learners demonstrate the ability to carry out measurement and estimating exercises to evaluate a tender submission and apply financial management procedures, with associated commentaries and justifications. Only learning outcome 3 should be assessed through a written assignment.

Assessment should be based around a specific construction project. This will ensure that the learner has a holistic experience, considering all the financial management issues for a specific project. The project can feed into work learners carry out for other units in this qualification.

Resources

Books

- Association for Project Management – *APM Body of Knowledge* 5th Edition
(Association for Project Management, 2006) ISBN 978-1903494134
- BCIS – *BCIS Comprehensive Building Price Book 2012: Major and Minor Works Dataset* 29th Edition (BCIS, 2011) ISBN 978-1907196188
- Brook M – *Estimating and Tendering for Construction Work*, 4th Edition
(Butterworth-Heinemann, 2008) ISBN 978-0750686167
- Cartlidge D – *Quantity Surveyor's Pocket Book* (Butterworth-Heinemann, 2009)
ISBN 978-0750687461
- Langdon D – *Spon's Architects and Builders Price Book 2012* 137th Edition
(RICS, 2011) ISBN 978-0415680639
- Lee S and Trench W and Willis A – *Willis's Elements of Quantity Surveying*,
11th Edition (John Wiley and Sons, 2011) ISBN 978-1444335002
- Lowe D and Leiringer R – *Commercial Management of Projects: Defining the
Discipline* (Wiley-Blackwell, 2006) ISBN 978-1405124508
- Potts K – *Construction Cost Management, Learning from Case Studies*
(Routledge, 2008) ISBN 978-0415442879
- Walker I and Wilkie R – *Commercial Management in Construction*
(Wiley-Blackwell, 2002) ISBN 978-0632058273
- Weygant R – *BIM Content Development* (Wiley, 2011) ISBN 978-0470583579

Other publications

- BSI – *BS EN 12973:2000 Value Management* (BSI, 2000)
ISBN 978-0580356865
- CIOB – *Code of Estimating Practice* 7th Edition (Wiley-Blackwell, 2009)
ISBN 978-1405129718
- CIOB – *The Code of Practice for Project Management for Construction and
Development* 4th Edition (Wiley-Blackwell, 2010) ISBN 978-1405194204
- RICS – *New Rules of Measurement 1 – Order of Cost Estimating and Cost
Planning* 2nd Edition (Royal Institution of Chartered Surveyors, 2012)
ISBN 978-1842197684
- RICS – *New Rules of Measurement 2 – Detailed Measurement for Building
Works* 1st Edition (Royal Institution of Chartered Surveyors, 2012)
ISBN 978-1842197165

Websites

www.ciob.org.uk/education

Chartered Institute of Building

www.rics.org

Royal Institution of Chartered Surveyors