# CONSTRUCTION PROJECT MANAGEMENT


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CERTIFICATION COURSE BY

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# CONSTRUCTION
# PROJECT MANAGEMENT

## Module 10

### Project Finances
### [Proficient Financial Tracking]

**Aim:**

***"Project finances will make you a more astute project manager."***

# Project Finances

## Module 10 - Unit 1

## Course Objectives

| | |
|---|---|
| • Introduction | • Types of Fraud and Theft |
| • Projects Cost Reports – Is There a Profit | • The True Cost of Theft |
| • Examples of Useful Cost Reports | • Preventing Theft |
| • Why Project Cost Reports are Important | • Importance of Checking Materials |
| • Cost Report Problems | • Reconciling Materials |
| • Project Cost Reports | • Checking Invoices |
| • Cost to Completion | • Importance of Checking Invoices |
| • Basic Site Costing | • Retainage Money |
| • Examples of Fraud and Theft | • Surety Bonds |

## Slides 10.2 – 10.4 Introduction

- ❑ Project Managers should ensure that their project is profitable.
- ❑ But even when a project is profitable, it is of little use if the Contractor has not been paid – – the profit is on paper only and it is no more worth than the piece of paper.
- ❑ Every year thousands of construction companies go bankrupt and out of business leaving their workers unemployed and often out of pocket.
- ❑ It is vital that Project Managers take an active interest in the finances of their project, understanding what things cost and what the Client is paying.
- ❑ Project Managers must:
    - Monitor the project's costs against the income,
    - Ensure completed work is claimed from the Client as soon as possible,
    - Then check that the Client pays the invoiced amounts.

- *Let's consider the following example. If a project is valued at $11 million and is priced with a 10% profit then the project should make $1 million profit. (Remember the profit is normally added to the cost, so an $11 million project with 10% profit will have $10 million costs + $1 million profit).*

*Paid $11 million = $10 million cost + $1 million profit*

- *What if the project actually has costs of $12 million, so the project loses $1 million.*

*Paid $11 million = $12 million cost - $1 million loss*

- *To recover the $1 million you must complete another $11 million project with 10% profit.*
- *After completing the second $11 million project, assuming the Contractor has made the profit of $1 million, the Contractor has covered their loss from the first project. They've completed $22 million of work and made no money.*

*1st Project = $1 million loss + 2nd Project = $1 million profit = $0 profit*

- *Now instead of losing money on the first project, what if you worked more efficiently and you actually reduced the calculated costs by 2%. You would make 12% profit, which is an additional $200 thousand profit and the total profit would be $1.2 million.*

*1st Project paid $11 million = $9.8 million cost + $1.2 million profit*

*Profit has increase by 20%*

- *Now what if your costs are 2% more than allowed, then the project profit will be $800 thousand – but you have lost $200 thousand of the profit priced into the project.*

*Paid $11 million = $10.2 million cost + $800 thousand profit*

*Profit has decreased by 20%*

- *To recover the $200 thousand you need to do $2.2 million worth of work at 10% profit.*

## Slide 10.6 Project cost reports – is your project making a profit or losing money?

- Cost reports compare the project costs against what the Client is paying.
- Usually cost reports break the project down into individual components so losses can be analysed to track the causes.
    - These components could be fairly wide looking only at labour, equipment, Subcontractors and materials.
    - But it could be broken down into more detail looking at labour, materials and equipment for individual tasks.
- Cost reports are usually completed monthly.
- Cost reports deal with historical data – looking at events that occurred a month or more ago – usually it is too late to correct issues as the damage is done.
- But you don't only have to rely on cost reports to know if the project is making or losing money you can do simple cost checks on activities – these can be for a complete task, over a day, or even for a few hours. We will discuss this later.

## Slides 10.7 – 10.8 Examples of where cost reports have been useful [Space for Notes]

## Slide 10.9 Why project cost reports are important

- Uncover theft or fraud
- Check materials are not being wasted
- Check that work has been claimed fully
- Highlight problems with productivity
- They indicate if the project has grown in scope
- They form the basis of prices for future projects
- Provide information on which projects are profitable

- Afford a target for the project Team
- Give the Contractor early warning of a problem
- Provide warning of unclaimed variations – like specification changes

**Project cost reports are a health check of your project.**

## Slides 10.10 – 10.12 Examples of problems with cost reports [Space for Notes]

## Slide 10.13 Problems with cost reports

- The finished report is ignored.
- Losses are not investigated properly – what is the real reason?
- The report has arithmetic errors.
- Costs are incomplete.
- The report assumes variation claims (change orders) will be paid and takes their full revenue into account.
- Costs and time to completion is inaccurate.
- The report is out of date.
- Revenues are not compared to the right costs.
- The revenue is wrong.
- The report is too complex to read and prepare.

## Slide 10.14 Project cost reports

- **Regular project cost can provide much useful information.**
- **The information must be used to recover losses and mitigate further loss.**
- **Incorrect cost reports can be misleading and provide the construction Team with a false sense of security.**
- **Project cost reports are viewed by some as a nuisance and a waste of time, taking management away from executing the project. But project cost reports are essential and provide much valuable information for the project team, company Managers and for Estimators. –**

**– Certainly, project cost reports have saved my projects millions of dollars.**

## Slides 10.15 – 10.17 Cost to completion

- Cost to completion is a good method to accurately forecast if a project will make or lose money.

- ❑ It involves taking all the costs incurred on the project to date, and adding to them all the costs that the contractor expects to incur to complete the project.
- ❑ This gives the total expected cost of the project, which should be compared to the value that the Client must pay.

*For example, the project is expected to take 6 months to complete.*

- *At the end of month 3 you take all the costs already incurred which say is $500 thousand.*
- *You then estimate that you must still purchase $50 thousand of materials.*
- *Your wages bill is $50 thousand a month, so another 3 months will cost $150 thousand.*
- *Equipment costs are $20 thousand a month, so another 3 months will cost $60 thousand.*
- *Overhead, supervision, and running costs are $30 thousand a month, so 3 months costs are $90 thousand.*
- *There is $50 thousand of subcontractor work to happen in the last month.*
- *So total costs to complete the project = $500 thousand already spent + $50 material + $150 wages + $60 equipment + $90 overheads + $50 thousand subcontractor costs to finish = $900 thousand.*
- *If the value of the project is $1 million you expect to make $100 thousand profit.*

- ❑ If the total expected costs exceed what the contractor is due from the Client then the contractor will lose money.

*So, in the previous example:*

- *If the project value is $800 thousand you will lose money.*
- *You should investigate why and how you can recover the losses.*

- ❑ Obviously, the accuracy of this method depends on the Project Manager ensuring the costs to date are accurate and complete, and that all possible future costs (both direct and overhead costs) have been included in the estimate.

*So, if in the previous example*

- *You had not allowed for a material invoice of $50 thousand then your actual costs would only be $450 thousand and your cost estimate would be $850 instead of $900 thousand.*
- *Or, if you forgot to allow for subcontractor work of $50 thousand and you missed the material invoice of $50 thousand your cost estimate is $800 thousand.*

- ❑ *You update and repeat the exercise at the end of every month.*

## Slides 10.18 – 10.20 Basic site costing

- ❑ The project should complete a monthly cost report as discussed. However, this report is often done a few weeks after the event.
- ❑ It is good practice to do some basic daily site costing to help detect problems at an early stage. These calculations can be simple and used to track a few repetitive tasks.
    - For instance, if an excavator is loading trucks, it's simple to calculate the hourly cost for the excavator and trucks (the hire rates, plus the operators, fuel and maintenance), and using the allowable (what the Client is paying you less mark-up,

to excavate and move a cubic metre of ground), you can quickly calculate how many cubic metres of ground must be moved in an hour to make money.
- If more ground is moved, then the project should be making money.
- While if less ground is moved there is a problem and either the costs must be reduced, (for example using a smaller cheaper excavator or removing a truck), or the production must be increased to achieve the required quantity.

*For example:*

- *We have an excavator which costs $55 per hour and uses $15 of fuel. The operator costs $25 per hour including overtime, leave pay, etc. Total cost of excavator is $95.*
- *There are 3 trucks, each costs $30 per hour and uses $12 of fuel. The operators cost $23 per hour. Total cost for each truck is $65.*
- *The operation costs $95 + 3 x $65 = $290 per hour.*
- *If the team loads 50 cubic metres per hour then the cost per cubic metre is $5.80 = $290/50*
- *If you are being paid $5.50 per cubic metre then you are losing 30 cents a cubic metre or $15 per hour. So you may need to improve productivity, or see if you can use 2 trucks, or smaller trucks, or a smaller excavator that is cheaper to operate.*
- *If you are being paid $6 a cubic metre then you are making money. However, this does not mean you should not look at ways to reduce costs or improve production.*

- A similar process can be performed for most operations on a construction site, whether it's the tonnes of reinforcing steel fixed, cubic metres of concrete poured, or metres of cable installed in a day.
- The results don't have to be 100% accurate, but they should be accurate enough to provide a quick, and reasonable, indication of whether the task is making or losing money.
- These calculations should preferably cover a full shift's production. –

– I have seen Project Managers check the production done in a hour and think the work is making money, forgetting however that in the course of the day there are times of no production, –
– for instance, when the team moves between tasks, during servicing and refuelling of equipment and the lost time on either side of the Workers' breaks.

## Slides 10.22 – 10.24 Examples of fraud and theft [Space for Notes]

## Slides 10.25 – 10.26 Types of theft and fraud

**Theft takes many forms:**

- Theft from the project which could include; equipment, tools, materials.

- Sometimes the theft is items that have already been built into the project, such as electrical cable, which often causes damage to other items and additional work to reinstall and repair the damages.
- Theft off delivery trucks – equipment and material is stolen from delivery trucks while they are parked at rest stops on the way to the project.
- Suppliers charging more than they should:
    - invoicing for materials that weren't delivered
    - double invoicing for the same item,
    - or charging more than the agreed rate on the order.
- Subcontractors invoicing for work they haven't done or charging more than the agreed price.
- Suppliers short delivering materials – this could include not delivering the quantities on the delivery note.
- The unlawful use of company assets –

– for example, Employees using equipment for their own projects either at home or where they are reimbursed directly by a Client.

- Employees depositing payments meant for the company into personal bank accounts.
- Employees accepting bribes to falsify payments and accounts.

## Slide 10.27 The true cost of theft

When there is theft, we often only consider the direct cost of replacing the item.

But the cost is often more than this. The cost may include:

- The cost to replace the item.
- Additional transport costs to get the replacement item to site.
- Project delays waiting for the replacement equipment or items.
- The cost of having the item unavailable –

– (consider personnel who can't work when their tools are stolen, the theft of an excavator battery which not only means the excavator can't work but results in trucks and other earthmoving equipment standing because they depend on the excavator).

- Specialist tradespeople may have to return to the project at additional cost to install the replacement item.
- Damage caused to the facilities by the thieves.
- Management time to order the replacement items and investigate the theft.

## Slide 10.28 Preventing theft

- You need to be always vigilant, ensuring there are checks in place that will detect when theft has occurred. This is a deterrent to potential thieves and will enable steps to be implemented to prevent more theft.
- Staff must be vigilant and understand how important it is to have checks in place and ensure that these checks and controls are diligently carried out.
- On project sites where theft is a possibility extra security measures may have to be installed, such as cameras, fencing and security guards.
- High value and high risk items may need to be secured when not in use.

- We have to place some people in trusted positions but it is important to:
    - Realize that people's circumstances change and we cannot know what financial stresses they may be experiencing in their lives, or what temptations they are unable to resist.
    - Know your employees and look for potential warning signs.

## Slides 10.30 – 10.31 Example of why checking and reconciling material deliveries is important

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## Slide 10.32 Reconciling materials

It's important to reconcile the materials bought on the project with the materials invoiced to the Client – hopefully these amounts will agree.

*For example in the month the concrete supplier invoiced your project for 500 cubic metres of concrete. Check that you have invoiced your client for 500 cubic metres.*

*If not why is there a difference?*

If the quantity of materials invoiced to the Client is less than that purchased it could be due to:

- Wastage through cutting, bulking, breakages, or lapping of materials
- The incorrect quantity being invoiced to the Client, which may be due to measurement errors, or additional work and variations being overlooked.
- Theft which cause additional costs and delays, and may happen:
    - On the project site.
    - In the delivery process.
    - Because the material may never have left the Supplier in the first place.
    - The Supplier over invoiced or was paid twice for the same item.

## Slide 10.33 Checking invoices

It is important to check invoices properly to ensure:

- The invoice has not been previously paid.
- The items have been received.
- The rate/price charged is as per the order.
- There are no additional charges.
- The agreed discounts have been applied.
- The calculations are correct.
- The taxes added are correct.
- Where applicable the retainage money has been taken off.
- Where deposits has been paid the amount is deducted.

## Slides 10.34 – 10.35 Example of why it's important to check invoices and account details

[Space for Notes]

## Slide 10.36 Retainage money

- Many projects require cash retention to be withheld by the Client, which is only released once the Contractor has successfully met various contractual conditions and milestones.
- This retainage may be 10% to 20% of the value of work completed, –

– with 5% released when the project is completed –

– and the other 5% at the end of the project maintenance period, which could be 3 to 12 months after project completion, and subject to no outstanding problems.

- This could amount to a large amount of money which the Client is holding, which impacts the Contractor's cash flow – which we discuss later.
- The Project Manager should be aware of these milestones and their requirements, and ensure they are met as soon as possible, –

– and that once they are, steps should be taken to obtain the release of the retainage money.

## Slides 10.37 – 10.39 Surety bonds

- In addition to holding retainage money some Clients ask for a surety bond or surety guarantee from the Contractor.
- The Contractor obtains the surety bond from a bank or insurance company.
- The institution charges a fee based on the value of the bond and the duration it's required.
- In addition, the bank requires a guarantee from the Contractor which can be recovered as payment should the Client not release the bond or surety. –

– This could be a cash deposit to the value of the bond, or an entitlement to seize property of the same value from the Contractor.

- Usually, the value of the bond is between 5 and 10% of the contract value. Half the bond is released by the Client when the project is completed and the remainder at the end of the maintenance period.
- The bond ensures the Contractor completes all of their obligations.
- The Client can call on the issuing institution to pay them the value of the bond (or a portion) to cover their costs should:
    - the Contractor not finish the project,
    - when the Client has to recover the costs of repairing defects which the Contractor failed to rectify,
    - or where the Contractor hasn't paid the Client legitimate back-charges.

- Having bonds and retainage money tied up on a project may prevent the Contractor from getting another project because they have insufficient cash and bond facilities for a new project.
- If a client calls in a bond from the issuing institution because the Contractor defaulted or failed to fix a problem then this could mean that the Contractor forfeits money they deposited with the institution as a guarantee, but more importantly the Contractor will have difficulty getting banks to issue a surety bond for their next project. –

– This will impact the Contractor being able to take on another project.

- **It is critical that surety bonds are returned as soon as possible to the issuing agent.**

- **Failure to do so results in:**
  - **Additional costs.**
  - **The Contractor may not be able to undertake new projects if they have exceeded the value of surety bonds they have the means of affording.**
- **Not attending to issues on the project may give the Client reason to claim against the surety bond which will impact the Contractor's ability to obtain further bonds for new projects.**
- **Project Managers must see that surety bonds and retainage money are returned by the Client as soon as practical.**

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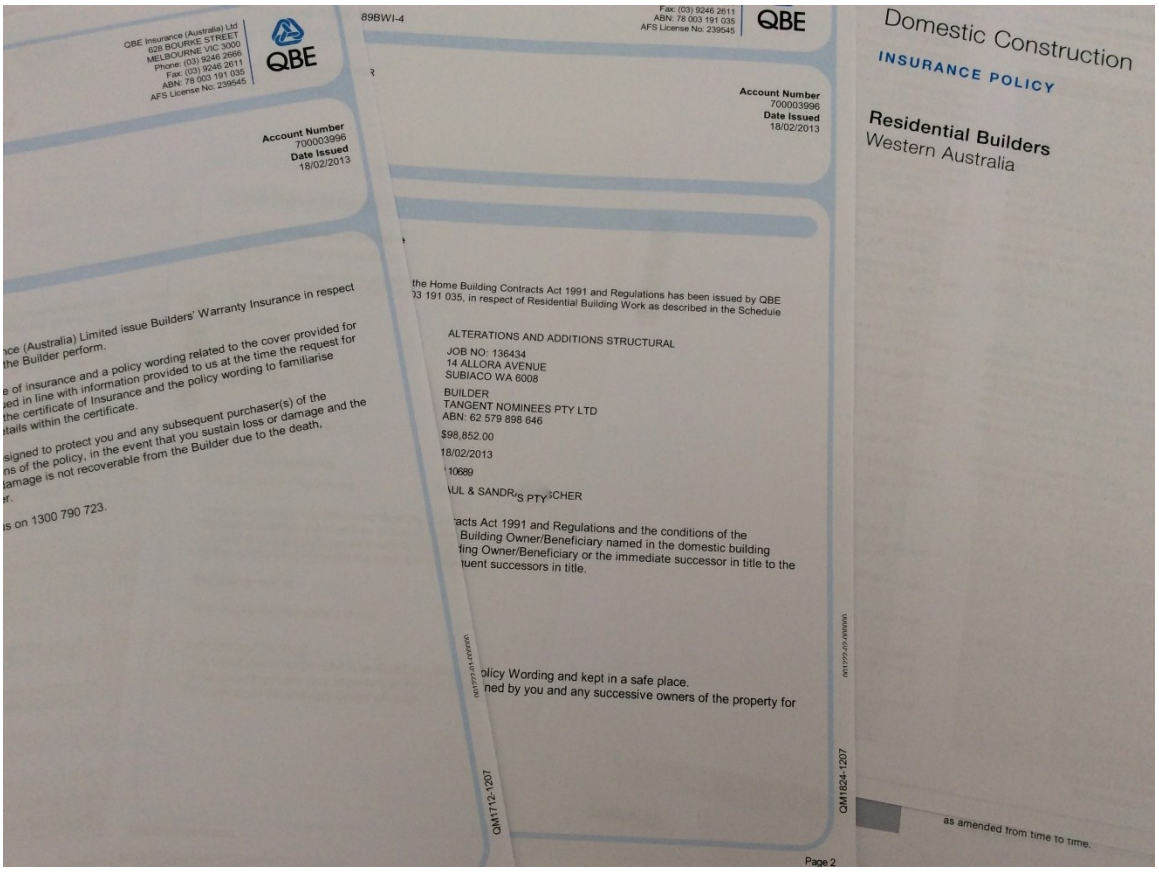

# Project Finances

## Module 10 - Unit 2

### Course Objectives

| | |
|---|---|
| • Cashflow | • Variations and Change Orders |
| • Understanding Negative Cashflow | • Reasons for Variations |
| • Improving Cashflow on Projects | • Ensure you Claim Variations and Changes |
| • When Projects Lose Money | • Non-Payment by Client |
| • Example of Problems by Hiding Losses | • What if Client Can't Pay |
| • What to Do when Projects Lose money | • Insurance |
| • Reasons Projects Lose Money | • Insurance Claims |

### Slides 10.42 – 10.47 Negative cashflow

- ❑ **Negative cashflow probably causes more Contractors to go bankrupt than any other cause.**
- ❑ **Even a profitable project can cause a Contractor financial stress if it has a negative cashflow.**

Negative cashflow is when the Contractor is paying money to Subcontractors, Suppliers, equipment Hire Companies, and in Employees' wages and salaries, before the Client has paid for the work that they have completed.

- ❑ **Most projects are cash negative due to their payment terms.**
- ❑ **Often Contractors make the cashflow situation worse than it should be.**
- ❑ **How can you improve the cashflow of your project?**

***For Example***

- *The Contractor prices a project with 10% profit.*
- *In month 1 their costs are $1 million. Profit $100 thousand. At the end of the month they invoice the Client for $1.1 million. The client pays 30 days later subtracting 5% retainage – That is 95% of $1.1 million –*

*– so the Contractor receives $1.045 million at the end of month 2.*

- *Say the $1 million costs are made up of $300 thousand wages paid every month. $100 thousand salaries paid at the end of the month. Subcontractors $300 thousand paid at the end of month 2. $100 thousand equipment hire paid at the end of month 2. $200 thousand materials – half is paid in advance and half at the end of month 2.*
- *At the end of month 1 the Contractor has paid wages, salaries and half the materials. Total costs $500 thousand and received no money from the Client.*
- *They are cash negative $500 thousand –*

***– where does this money come from?***

- *Assuming in month 2 the Contractor does the same work and has the same costs.*

- *So another $1 million costs, consisting of $300 thousand wages, $100 thousand salaries, $100 thousand materials paid in advance and $100 thousand paid at the end of month 3. $100 thousand equipment hire paid at the end of month 3 and $300 thousand Subcontractors paid at the end of month 3.*
- *At the end of month 2 the Contractor is paid $1.045 million ($1.1 million – 5% retainage money) which was invoiced work in month 1.*
- *Costs paid by the end of month 2 = all of month 1 costs of $1 million + for month 2, $300 thousand wages + $100 thousand salary + $100 thousand materials = total of $1.5 million.*
- *The project is $455 thousand cash negative at the end of month 2. ($1.045 million paid by client – $1.500 million costs.).*
- *If we repeated the exercise on month 3, then the client pays a total $ 2.09 million, and costs are $2.5 million, so you are $410 thousand cash negative.*

- *Now what happens if the Contractor forgets to claim $100 thousand in month 1 and invoices for $1 million instead of $1.1 million? They receive $1 million – 5% = $950 thousand at the end of month 2. Then at the end of month 2 the project is $550 thousand cash negative versus the $455 thousand.*

- *What happens if the contractor can pay all the materials 30 days after they are used? That is month 1 materials are all paid at the end of month 2. Then at the end of month 1 the contractor is $400 thousand cash negative and not $500 thousand.*

- *What happens if the Client pays the Contractor 10 days late – that is 10 days into month 3. Then at the end of month 2 the Contractor is $1.5 million cash negative having received no money yet from the client. –*

*– **Surely the contractor cannot pay their bills!***

- *What happens if you make zero profit in month 1 because your wages were $400 thousand and not $300 thousand. Then you are cash negative $600 thousand at the end of month 1, and $555 thousand at the end of month 2.*

## Slide 10.47 Example of delayed approval of change orders impacting cashflow

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## Slides 10.48 – 10.50 Improving cashflow on projects

**Improve the cashflow on your project by:**

- Submitting payment claims and invoices on time.
- Ensuring payment claims have all the required supporting documents.
- Check the claims are correct. Incorrect claims will be rejected.

- Claim everything you can. If possible a little more.
- Follow up with the Client to see the claim is acceptable.
- Submit variation claims (change orders) and agree them as soon as possible so they are included with the progress claim. This includes getting the order amendment.
- Where the value of work increases such that it will exceed the contract value, warn the Client well ahead of time so they can arrange extra funds.
- Where money is paid when a milestone is complete, ensure the milestone can be claimed as soon as possible – complete everything necessary.
- On the payment date check the money has been received.
- At the end of the project complete all paperwork and punch list items as quickly as possible so retainage money and sureties can be released.
- Do not price projects with extended payment terms.
- Do not price projects for clients that are bad payers.

**It is the Project Manager's duty to ensure the Client pays all money when it is due – do not leave it to others!**

**You can also improve the project cashflow by:**

- Agreeing to better payment terms with Suppliers and Subcontractors. However, do not pay Suppliers and Subcontractors late.
- Not having excessive materials on the project.
- Not having expensive consignments of material or equipment delivered at the end of the month.
- Negotiating better payment terms with your Clients.

**Some Contractors are masters of managing their cashflow.**

## Slides 10.52 – 10.53 When projects lose money

- Unfortunately, Project Managers often blame others when their projects lose money – the Estimator is usually a firm favourite.
- The poor Estimator – the way some Project Managers carry on you would think every price was riddled with errors –

– errors which always appear to be in the Client's favour –
– you never hear Project Managers admitting that the Estimator made a mistake which favours the Contractor.

- Then there are some Project Managers who hide the losses hoping they will go away before the end of the project.
- Of course projects that are losing money seldom turn to a profit – in fact inevitably the losses grow. –

– And no, despite what some Project Managers may think Estimators are not to blame for most losses that projects incur – they do indeed make mistakes sometimes, and their estimates might on occasion be overly optimistic.

- But often project losses are due to issues on the project – issues which the Project Manager can take action to prevent.
- It's imperative that Project Managers
    - know as soon as possible that their projects are losing money
    - Understand why the project is losing money.
    - Take prompt action to recover the losses if possible, and prevent the loss growing.
- **Finding reasons for a loss should not be about apportioning blame, but rather to correct the problem, and prevent it occurring on this project and future projects.**

## Slides 10.54 – 10.55 Example of problems caused by hiding project losses [Space for Notes]

## Slide 10.56 What to do when a project is losing money

**When a project is losing money, it is important to:**

- Investigate where the money is being lost.
- Put in place steps to recover money and mitigate further losses.
- Stay calm.
- Be upfront with your Manager.
- Ask for help if necessary.
- Be at the place where the actual work is done.
- Don't procrastinate – take decisive action.
- **There is usually always more than 1 reason for losses.**
- **Get to the underlying cause and not just the symptom of the problem.**
- **Do not take the wrong action.**

## Slides 10.58 – 10.60 Reasons projects lose money

**Reasons for projects losing money include:**

- Poor productivity due to:
    - Poor supervision.
    - Low morale.
    - Incorrect resources.
    - Production bottlenecks.
- Theft:
    - Direct theft on the project.
    - Suppliers and Subcontractors claiming for stuff they did not deliver or work they have not done.

    - Suppliers short delivering.
- Poor quality work.
- Not invoicing the Client for work done.
- Overpayments of Subcontractors and Suppliers:
    - Paying invoices twice.
    - Forgetting to deduct discounts or previous payments.
- Not claiming variations and delays that you are entitled to claim, such as:
    - Additional work.
    - Change in specifications.
    - Delays and disruptions.
    - Client not fulfilling their obligations.
- Material wastage due to:
    - Breakages from poor handling and installation.
    - Storing materials incorrectly.
    - Large quantities of off-cuts
    - Over ordering materials.
    - Applying materials thicker than they should be.
- Ordering items that are the wrong specification.
- Non-performance of Suppliers or Subcontractors.
- The project is not completed on time.
- A poor price estimate due to errors, not understanding project site conditions, wrong rates, not understanding the contract.

## Slides 10.61 – 10.62 Variations and change orders

- **Unfortunately, many Contractors unwittingly do work for nothing!**
- **Then they wonder why they lose money and go out of business!**
- Contractors regularly unwittingly carry out work for which they aren't paid. –

– I'm not talking about dishonest Clients who don't pay their Contractors, which is another story all together, –

– rather, it's because Contractors haven't claimed for the work they've done.

- Most construction projects will change and vary from the works that were originally quoted for, and priced. Contractors must ensure that they are paid for all the changes and additional work.

## Slides 10.63 – 10.64 Reasons for variations and change orders

**Variations and changes occur for a number of reasons:**

- Additional scope.
- Errors and omissions in the pricing document – resulting in the Contractor not pricing or allowing for certain items, restrictions and specifications which they now have to include.
- Changes to drawings
- Changes of commercial or contractual conditions
- The Client delaying or changing milestone dates, or requesting the schedule to be accelerated

- Client drawing errors and drawing coordination problems
- Changes of law within the state or country
- The Client or their Contractors damaging completed work.
- Delays due to:
    - Late access to work areas
    - Late issue of information and drawings from the Client
    - The Client making changes to the completed works
    - Unforeseen weather conditions
    - Unforeseen project conditions
    - The Client's Contractors or Workers impeding or preventing access
    - The Client-provided services are unavailable, or of insufficient quantity, or not provided to the point specified, or provided late
    - The Client-supplied equipment or materials arriving late, in insufficient quantities, or not to the correct quality
- Unexpected ground conditions, for example, rock.

## Slide 10.65 Ensure you claim variations and changes

- Read through and understand the construction contract and pricing documents.
- Regularly compare construction drawings and specifications with those issued when the project was priced to ensure that they haven't changed.
- Continually ask the questions:
    - **'Are we constructing what we priced?'**
    - **'Are the site conditions as expected when the project was priced?'**
    - **'Has the Client fulfilled all their obligations in the contract?**
- The Client must be notified of variations as soon as the Contractor becomes aware of them, and certainly within the time specified in the contract.

We discuss variation claims in more detail in our **Change Order Management Course.**

## Slides 10.66 – 10.67 Non-payment by the Client

- **Regrettably, all too often Contractors are not paid by their Clients.**
- **This could be because the Client has become bankrupt, or the Client is unscrupulous.**
- Non-payment probably results in more contractors going insolvent than anything else, –

– so to avoid this it's vital to follow-up and ensure the company is paid on time.

- Equally important is taking cognisance and investigating any rumour or references to the Client being unable to pay other Contractors, or any talk regarding the solvency of the Client.
- The Project Manager must understand the contract.
    - Usually, the Contractor cannot stop work because of non-payment.
    - Stopping work could result in the Contractor being in default, which could give the Client rights to terminate the contract, giving them legitimate reason not to pay outstanding monies.

## Slides 10.68 – 10.69 What you should do if you suspect the Client cannot pay

**If you have suspicions the client's cannot pay:**

- Report this to your Manager.
- Investigate them further.
- Where there's basis to these rumours call a meeting with the Client to discuss them.
- Refer to the contract and check what recourse there is if the Client cannot pay
- Delay the delivery of non-essential items.
- Avoid placing new orders for material and equipment where possible.
- Remove equipment from the site which isn't being used.
- Where possible, slow down the rate of work without compromising the Contractor's rights and obligations.
- If possible avoid mobilizing or employing new personnel.
- Check if a payment guarantee is in place, and that it's valid and will cover the work that has been completed but not yet paid.
- Issue the Client a formal notice that they are in breach of the contract for non-payment.
- **Time is of the essence so do not wait another month to see if your invoice is paid.**

## Slide 10.70 Insurance

- Sometimes things are damaged on the project. This could be equipment, materials, completed work, partly completed work, temporary facilities. –

– This damage could be due to an accident, poor weather, mechanical failure, flooding, etc.

- There may be insurance policies in place which can be claimed against.
- The insurance policy could be taken out by your company, equipment hirer, the Client, or other Contractors.
- Insurance could cover repairing the damaged item.
- Insurance usually does not cover for delays caused by the damage, nor for consequential damages.

## Slide 10.71 Insurance claims

- When an insurable event occurs it's important the relevant insurance company is notified as soon as possible.
- The Project Manager must know if the event is insurable, under what policy it can be claimed, who the Insurer is, and what the excess is.
- Photographs should be taken of the damage, and the area made safe and secure.
- A detailed report should be prepared setting out the events that caused the damage and an estimate of the repair costs.
- The Insurer will advise if an Assessor will inspect the damage and the next steps. Once the Assessor gives the go ahead to proceed the damage can be repaired.
- If the damage is delaying progress on the project repairs must be done as quickly as possible. Most insurances will not cover the impact of these delays.

# Summary Module 10

## Slides 10.73 – 10.75

- Project Managers must ensure that their projects are profitable and that the company is paid for work completed.
- Every year Contractors go out of business because they lose money, or are not paid on time.
- Simply reducing costs by 2% could result in a 20% increase of profit if the project was priced with a 10% profit margin.
- Project cost reports are important as they show when losses occur and where they occur so that the losses can be investigated.
- Unfortunately, some cost reports are done badly, or they are ignored, so the information is useless.
- Fraud and theft are often a major problem on projects. Theft not only results in the cost to replace the item, but there are often delays and costs to obtain and fit the replacement items.
- Ensure that your project has checks and controls in place to prevent and detect theft.
- Be aware that there are many forms of theft and don't take trust and honesty for granted. Even trusted Employees could steal from the project.
- It's good practice to do some basic site costing for costly or extended activities so that early action can be taken to make improvements.
- You should reconcile the materials received with those claimed from the Client.
- Invoices should be checked to ensure the items were received, that they have not been previously paid, that the rates charged are correct, and the correct discounts have been applied.
- Project Managers must ensure that retainage money and surety bonds are returned as soon as possible.
- There are many reasons why projects lose money and it is important to uncover the underlying cause.
- When Contractors are spending money (paying wages and invoices) and have not been paid yet by the Client they are cashflow negative. Negative cashflow can result in Contractors becoming bankrupt.
- You can improve cashflow by ensuring invoices are submitted to the Client on time, that you claim for all completed work, and check that the Client pays on time.
- Where the Client has made changes or delayed the Contractor, or there are unforeseen obstacles that cause the project delays or extra costs, then usually you can submit a variation claim for these changes and delays.
- When there is an accident, or damage caused by weather, fire, etc, then the cost of the repairs may be able to be claimed from insurance.
- Notify the Insurers immediately when there's an accident or damage from an insurable event and keep good records, including photographs, of the event, damage, and repair costs.


*"HAQE: To level up"*

# Quiz – Module 10

## True or False:

1. _____ It is not the Project Manager's responsibility to ensure the Client pays invoices on time.
2. _____ Cost reports are a waste of time.
3. _____ It is important to have checks and controls in place to detect and deter theft on projects.
4. _____ Negative cashflow is when the Contractor is paying for stuff which they have not been paid for.
5. _____ Projects that have negative cashflow could cause the Contractor to go bankrupt even when the project is profitable.
6. _____ If you project is losing money don't tell your Manager.
7. _____ When a project loses money it is usually because the project was not priced properly.
8. _____ Trusted Employees will never steal from the project.
9. _____ Insurance payouts will cover for lost time on the project caused by an insurable event.
10. _____ It is important to reconcile material deliveries with the quantity of material used on the project and invoiced to the Client.

## Multiple Choice

**11. Cost reports are important because they:**

A. Provide a check that all work has been claimed.
B. Highlight when there is a problem.
C. Provide information to price the next project.
D. May uncover theft.
E. All of the above.

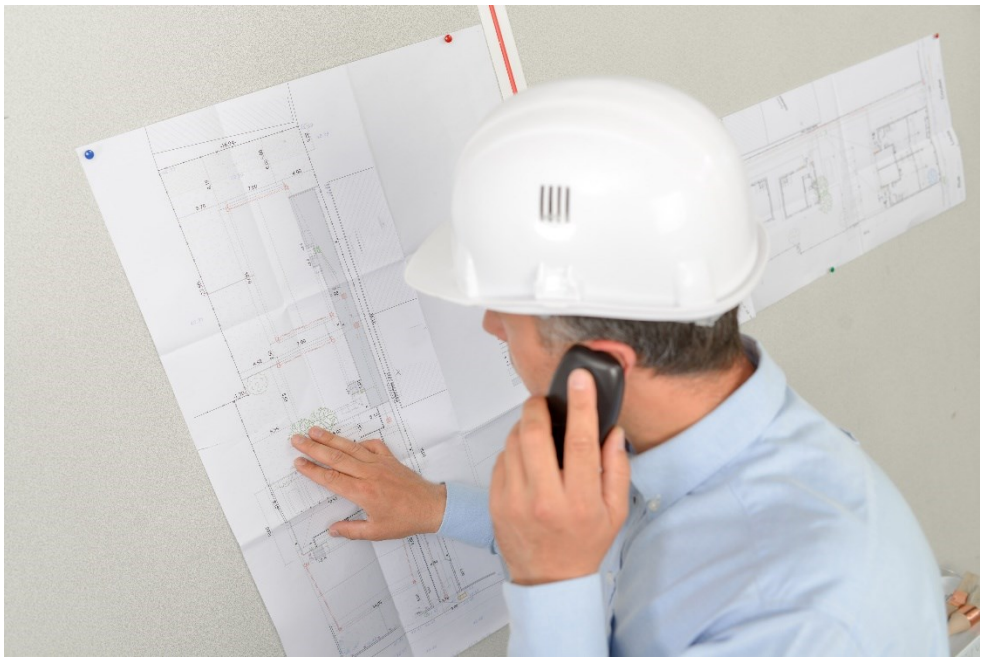
**12. The cost of theft includes:**

A. The cost of the replacement item.
B. Delays waiting for the replacement.
C. The transport for the replacement.
D. Damages caused by the theft.
E. All of the above.

13. **If you have an excavator loading dirt into 3 trucks and the excavator costs $50 per hour, the operator is $25, and the average fuel is $10 per hour, and the trucks cost $25 per hour each, and each driver costs $20, and they use $10 of fuel each hour. If they move 100 cubic yards per hour then the cost to move a cubic yard of dirt is:**
    A. $2.00
    B. $2.20
    C. $2.50
    D. $3.00
    E. Too much.

14. **You should improve project cash flow by:**
    A. Ensuring that you claim all work.
    B. Submitting claims on time.
    C. A & B.
    D. Paying Suppliers and Subcontractors late.
    E. A, B & D

15. **You can usually submit a variation claim (change orders) to the Client when:**
    A. The project is losing money.
    B. There is additional project scope.
    C. The Client caused delays.
    D. All of the above.
    E. B & C.



# Homework

- Read: Chapter 11 of "Successful Construction Project Management" – pgs. 187-203
- Please complete all activities and or forms sent to your email as it pertains to the corresponding Module.

# Activity Questions

Please answer the following questions based on Module 10.
Once complete transfer your answers to our digital form for our teacher to review. (Forms provided in email)

## Questions:

1. Why are project cost reports important?

2. What is the true cost of theft on construction projects?

3. Why is it important to check material deliveries and reconcile material deliveries on your project?

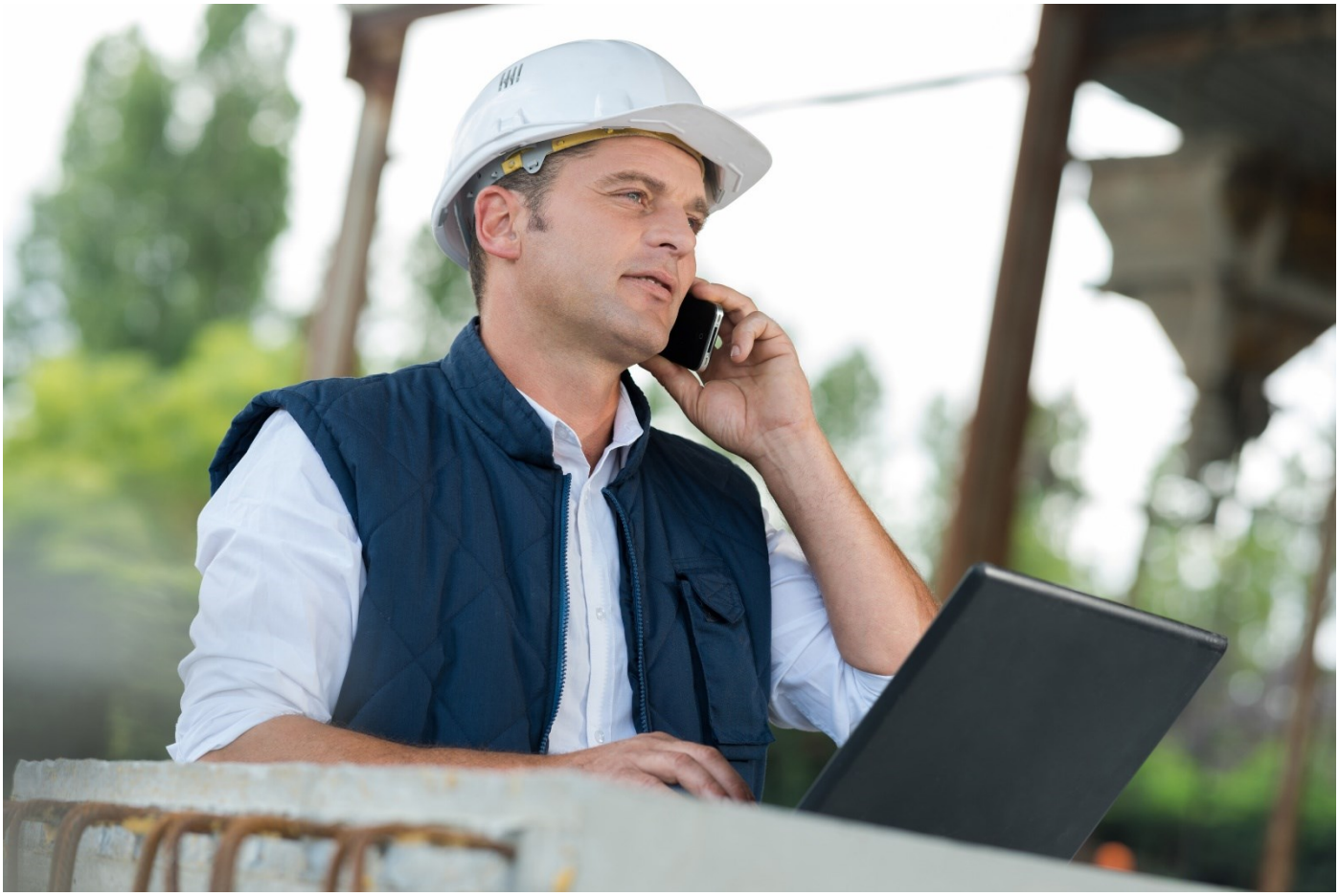
4. What is negative cashflow?

5. What do you do if your project is losing money?

6. What are some of the reasons why your project could be losing money?

7. What are some reasons for change orders?

8. What should you do if the Client does not pay?



# Additional Reading Extra

**Notes:** Please see email for clickable links

## Module 10 Financial

1. We discussed fraud and theft in this module. What about cybercrime? This article has the consequences of hacking of a company system. And this article has interesting insights how to prevent cybercrime 7 ways to hack a construction firm and how to prevent them.
   How can you prevent cybercrime on your project? What will you do if your computer is taken over by ransomware?

2. Another reminder on how critical cashflow is for contractors. Cash flow problems could hinder subcontractors growth.
   Do you think cashflow is a problem for your company? How will you improve cashflow for your company?