‘Construction risks in Qatar: How to master management and mitigation techniques’

Neil Hamilton – Director
Quantex Qatar

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INTRODUCTION – NEIL HAMILTON

Fellow of the Australian Institute of Quantity Surveyors and a Chartered Quantity Surveyor with over 35 years' experience having worked in the UK and Australia, before coming to Qatar in early 2009 as a Director of Davis Langdon, where he previously worked in the London office for 10 years and Doha for 4 years and Finance Partner, during the acquisition of Davis Langdon by AECOM.

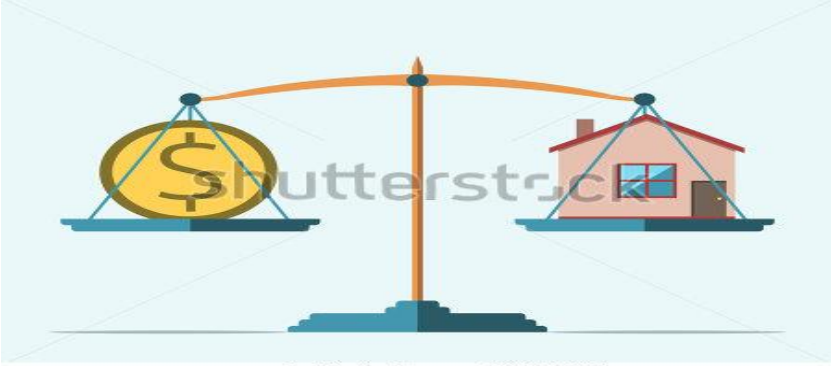
A Grade A Quantity Surveyor registered with MME and a co-founder of Quantex Qatar, an independent and local Quantity Surveying and Project Management Company set up in 2012 and with now with over 30 trained and qualified QS staff working across all construction sectors in Qatar.

‘Construction risks in Qatar: How to master management and mitigation techniques’

- **What is Risk and Risk Management**
- **Client Risks**
- **Construction Risks**
- **Questions?**

What is Risk and Risk Management?

- **Risk can be defined as the probability of an event and its consequences.**
- **Risk is a feature of any business – not just in construction.**
- **Risk can be either be eliminated or managed by reducing the potential of the risk and / or minimising the adverse consequences of risk.**
- **Seek a balance between risk and reward – who is best placed to carry the risk?**



The Client's Aim…

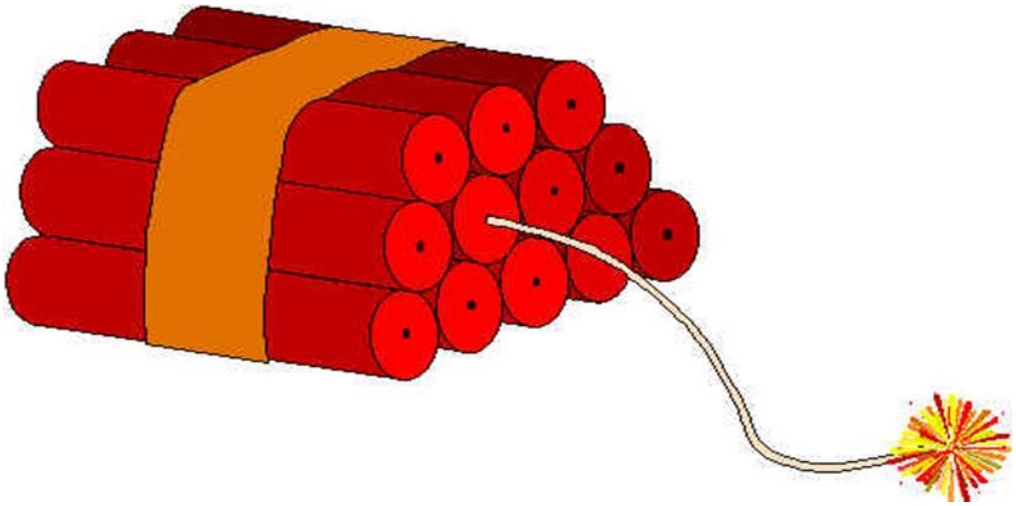
The Contractor's Aim…

The Consultant's Aim…

The Project Manager's Aim…

Finally, there is the man who builds it ...

Is Construction a risk business?



‘One Project’

- **Ensuring project is ‘on market’ when completed – design is ‘future proofed’ and meets owner’s expectations…?**

  - **Test viability of project.**
  - **Set a limit on expenditure – out-turn price certainty.**
  - **Establish a scope which can be achieved for a specific level of investment.**
  - **Carry out market demand and analysis.**
  - **Obtain taxation incentives – capital allowances and grant funding for certain developments.**

‘One Project’

- Client is the ‘Project Promotor’ whether private or public.
- Profit is the aim for the private sector.
- ‘Value for money’ and ‘fitness for purpose’ is the aim for the public sector.
- Whichever form of procurement, timescales or project delivery method is used - due design and construction process has to be followed….
- Market analysis, benchmarking and feasibility studies, design development, procurement and contract award, construction and payments, handover and permitting approvals….and finally occupation and ownership.

Client's Aim

- **Time – Cost – Quality.**
- **Client's can pick two…not all three.**
- **All three carry <u>RISK</u> and this has to be managed or transferred…**

Client Risks and Responsibility

- **Client is the ultimate beneficiary of the project – sale or lease or for public benefit.**

- **Client is responsible for managing the procurement and construction process and ultimate completion / acceptance of the building.**

- **Client is liable for selecting Consultants and Contractors and ensuring their performance and productivity.**

- **Client has to arrange the project funding either by debt or equity financing even if he has guaranteed income for the building (pre-let arrangement) over the short term.**

- **Importantly – Client has to identify the risks and seek to transfer risk to the ‘best party’ to carry the risk…**

Client’s Budget Risk – Construction Costs Plus…

a) Client's Professional & Consultancy Management, Legal, Agents, Overheads & Profit or any other direct fees.
b) Statutory fees, taxes, permits and other municipal charges or rates.
c) Client contingencies, funding or finance costs or charges.
d) Client's insurances and other costs.
e) Land acquisition costs and plot development costs.
f) Service diversions and/or relocation.
g) Infrastructure works outside the site boundary.
h) Capital contributions to third parties or authorities.
i) Specialist facilities and equipment.
j) Provision of racking, shelving, loose furniture, fittings and equipment, IT servers, computers, telephones, and security installations and equipment.
k) Operational plant and equipment such as mobile cherry pickers, loading platforms, forklifts, etc.

Client's Budget Risk – Construction Costs Plus…

- Land – fixed cost and an asset on the balance sheet.
- Finance and funding – mixture of debt / equity (QCB 60: 40 ratio).
- Consultants fees – generally around 8 – 15% of construction cost.
- Permitting and license fees – around 1 - 2% of construction cost.
- Fit-out and equipment – say around 1 – 2% of construction cost.
- Other 'known unknowns' – allow contingencies of 5 – 10%.
- Cost escalation as a result of abnormal currency rate fluctuations?
- Inflation and variations during the duration of the design and construction works?

Client's Budget Risk – Construction Costs Plus…

- **Building cost is the biggest unknown commitment at the outset.**
- **Commenced on outline and sketch information.**
- **Time and cost risks can affect final viability.**
- **'Scope creep' through design and specification changes.**
- **Govt. action and Third Party requirements such as QCDD approvals & GSAS certification.**
- **Client or 'End user' changes and variations can affect original brief and intention and impact on time and cost.**

Client's Budget – Construction Costs Plus…

- **Strong need to control costs during all of the design stages make sure project is on budget at all times.**
- **'Fixed lump sum prices' for design and construction stages gives a degree of price certainty but out-turn cost and time is variable…**
- **Clients don't want 'hidden shocks' and someone to 'protect the purse' when it comes to his money!**
- **Remember – the building is not a completed 'asset' until Taking Over Certificate is issued and the development has then a true value (sale / lease / re-finance. etc.).**

Key Client Risks – Effective Pre-Selection

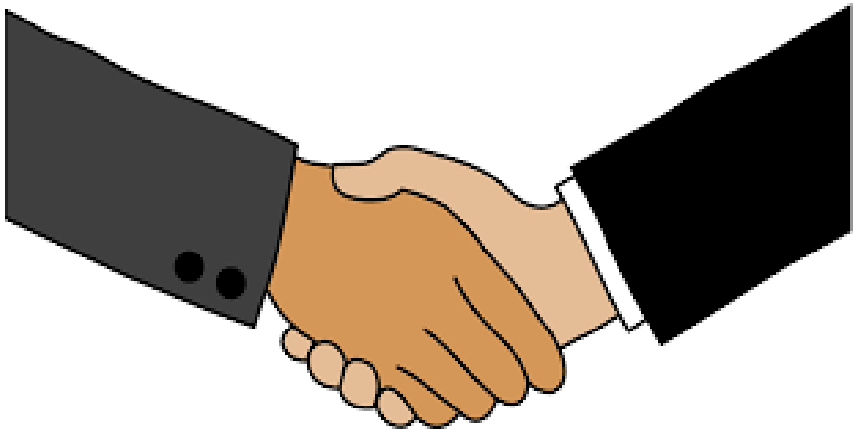
- **Selecting your 'partners' for the project – consultants and contractors will be 'contracted' – a marriage!**

- **Carry out thorough and effective pre-qualification process:**

  proven track record and experience?
  key staff are qualified and knowledgeable / available?
  staff and plant resources to handle project?
  financially stable and solvent?
  capacity to handle the project *'at the time*'?
  lowest price will win – is it the 'best value'?

  Finally….can you work with this Company?

The deal is done – into Construction…



Construction Risks – Size of Market

- **Constrained by the number of contractors operating – only a certain number of each grade of contractor and once 'order books are full', then prices can increase and competition reduces.**

- **Entry to market – local sponsorship and Joint Ventures enable 'off shore' contractors to enter market but takes time and costs to become established with a 'track record' – JV sometimes a 'one off'.**

- **Reputations – 'hard won and easily lost' – due to size of market and number of projects everyone is soon aware of any issues on individual contracts.**

Construction Risks – Material & Labour Constraints

- **Shortage of good sub-contractors with specialist knowledge especially for advanced buildings – reliant on expertise of the main contractors to manage the process.**

- **Most manufactured components are imported – lifts, mechanical and electrical plant and fittings and tiles, boards, doors and finishes and subject to import duties, freight, transport and storage costs, risks of damage and delay - pre planning and lead-in times are critical for materials to arrive on site when needed.**

- **Labour market – typically unskilled and non specialist although cost base is low means that more labour is supplied than actually needed – productivity.**

Construction Risks – Plant & Labour Availability

- **Plant utilisation – excavators, JCB's, tippers and contractor's plant and tools are deployed on site for contract duration – not hired ' in and out'.**

- **Management – some managers are on short-term contracts for duration of project and have little job security.**

- **Site facilities are variable – workers welfare and mess cabins and locations are not always pre-planned and cater for the number of workers required.**

- **Site labour – on-costs such as transportation, accommodation, flights, health and medical care.**

Construction Risks – Tender Conditions

- **Traditional tender market – typically lump sum fixed price contracts based on full design, specification and Bills of Quantities which takes time to procure and award.**

- **Contract conditions – usually onerous with strict provisions and typically means a 'comply or withdraw' process as only compliant bids are reviewed and evaluated – no room for negotiation.**

- **'Design by the designers' – contractors are expected to build and not design and carry no design liability – little scope to change design and / or specifications.**

- **Inflationary pressures in market – supply and demand constraints easily creates 'bubbles' due to material shortages and availability – contractor pays.**

Construction Risks – Contract Conditions

- **Bonds and guarantees – advance payment guarantees and performance bonds are the provided by contractors from local banks and generally are 'on demand' rather than 'on default' bonds and use up working capital / funding facilities.**

- **Cash flow and payment terms – generally contracts provide 50 - 90 days payment cycle – contractor has to fund 'gap' and full substantiation required for each payment can cause delays in certification and contractors seek 'short term finance' to run their businesses.**

- **Variations and extras – Final Accounts become 'battlegrounds' as fixed lump sum contracts give rise to variations and claims as the contractor seeks recovery of his costs not recovered in his prices.**

Construction Risks – Progress & Productivity

- **Dispute resolution – arbitration can be slow and costly – typically most disputes are over payment for variations and extensions of time and settled with Clients directly rather than by recourse to the courts.**

- **Workmanship issues – supervision consultant responsible for over-seeing quality of hidden and finished works and lack of co-ordination of services can give rise to late rectification works and unsightly detailing.**

- **BIM Models being used to mitigate clashes of structure, services and finishes and passed from designer to contractor – not always available.**

- **‘Power on’ dates and QCDD approvals are difficult for the contractor to control and can avoid responsibility.**

Construction Risks – Health & Safety

- **Health and Safety – sometimes poor culture of site cleanliness and safety practices gives rise to lack of protection to site workers.**

- **Personal protective equipment – workers provided with high-vis, boots and overalls and goggles and effective supervision to ensure site safety and provision of proper scaffolding and access equipment for safe working.**

- **Legislation – no legal recourse due to unsafe site practices such, as in the UK, with legal responsibility of the Directors of the construction company being held personally liable.**

Owner Operational Risks – Life Cycle Issues

- **Maintenance – culture of Facilities Maintenance (FM) and establishment of local FM companies means that sophisticated buildings can now be maintained and operated as per the As-Built documentation.**

- **Power, water and cooling – historically low costs of utilities are now rising and focus on conserving natural resources by use of 'long life LED ' light fittings, increasing insulation levels and reducing air leakages from buildings to reduce impact on the environment and for GSAS points.**

- **'Iconic' designs – Building owners being able to maintain and repair their properties safely and cost effectively due to lack of cleaning and maintenance strategies in the design stage for complex facades, roof plant and atriums.**

Finally …is Construction as risk business?

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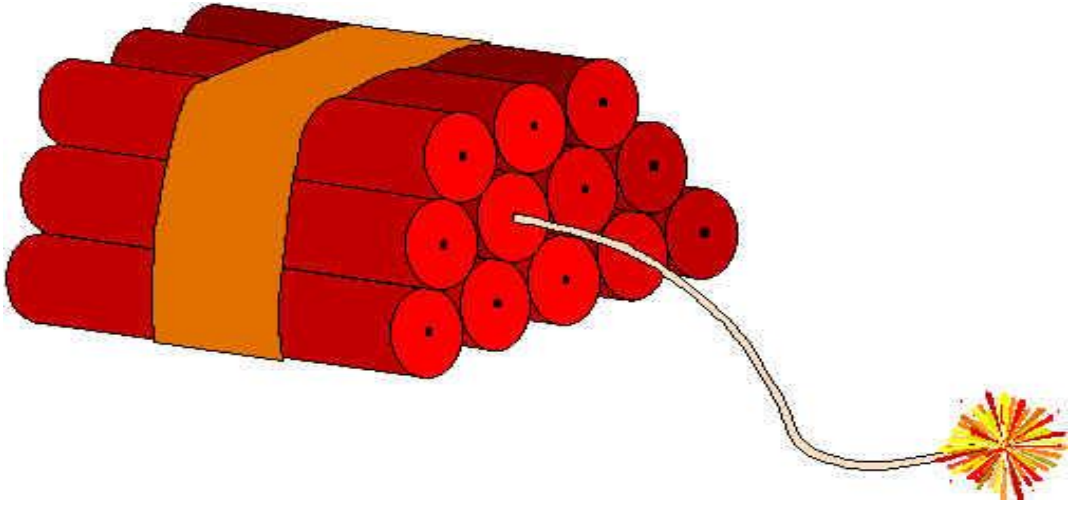

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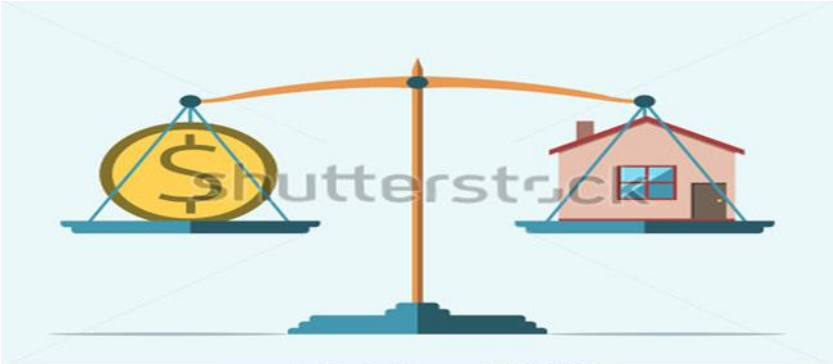

Any questions?

Thank You