Project management 101 *by Zavanak*

17. FINANCING & CONTRACTS

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Project management 101 *by Zavanak*

17.3 Project contracts

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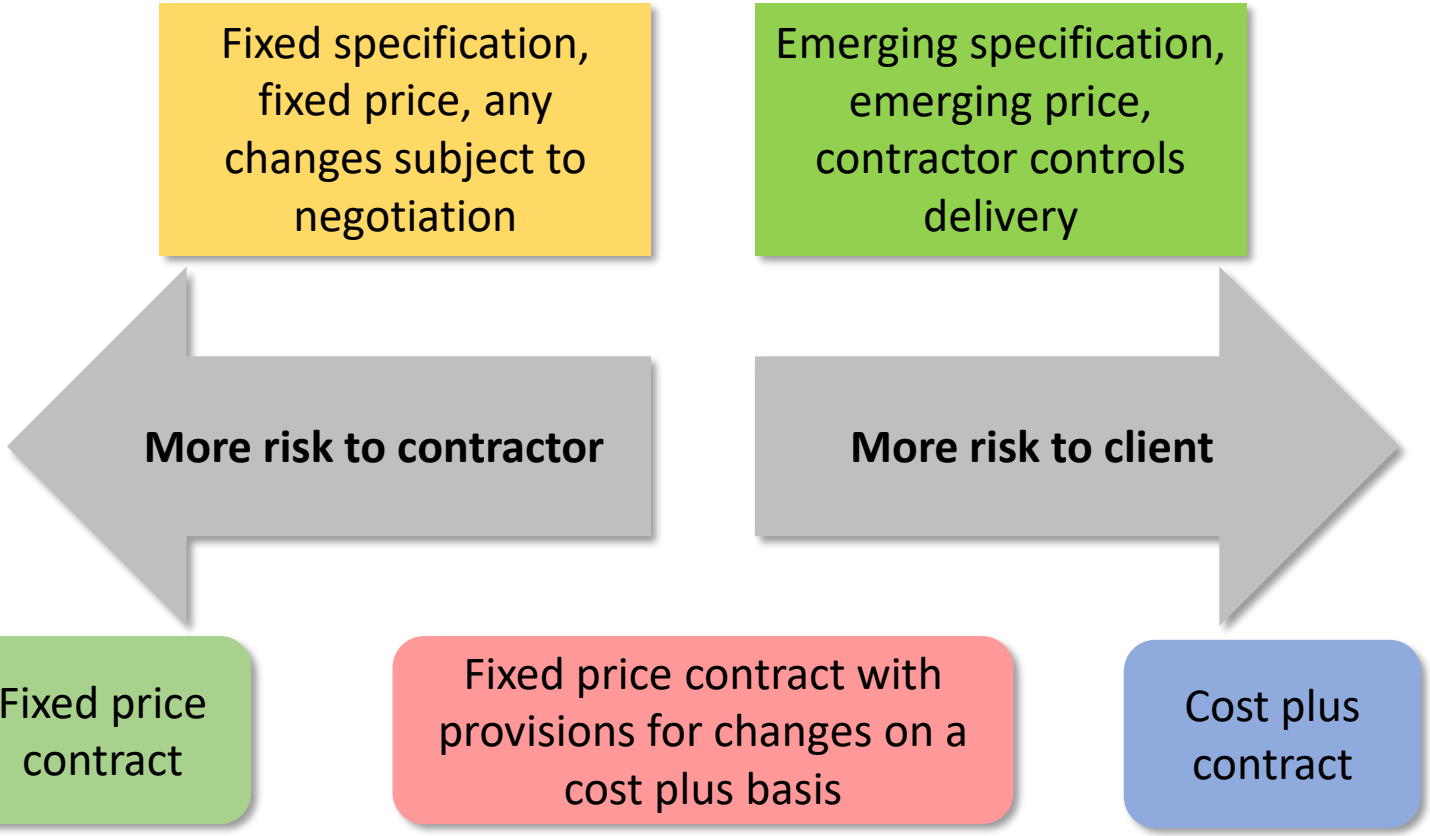
Who bears the bigger risk?



Fees need to be properly estimated, delays may produce losses due to inflation

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Conventional contracts

The client raises finance and gets the project done, then operates the output and maintains it.

Traditional model

Client pays for output on acceptance

Contractor's liability ends with acceptance

Client keeps operating revenue

Client owns output throughout its life

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Fixed price contract

Characteristics	For contractor	For client
Price is set	Needs more time and effort in estimating and negotiation	Price is certain, supplier is under pressure to finish on time
Specification and scope are set	**Cost over-runs can lead to losses**	**Little need to monitor supplier cost control**
Often the basis of projects purchased through a bidding process	Not inflation-proof without provision in contract	Encourages keen pricing from competing bidders
May have incentives for supplier to reduce costs and improve efficiency	**Incentive to apply rigorous change control**	**Risk that supplier may cut corners – quality and safety might be compromised**

Best for projects where technology is well understood, environment is familiar and management is straightforward.

On high risk projects the declared price can be high to enable a healthy contingency pot – even though a trouble-free project will yield a disproportionate profit.

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Cost plus contract

Characteristics	For contractor	For client
Price depends on time and resources used, plus allowable profit	Less risk in estimating process, and negotiation time is likely to be shorter	Ultimate price is uncertain – supplier is under less deadline pressure
Specification and scope may not be fully defined at the start	**Project is more inflation-proof**	**Tends to increase the price – client needs to be vigilant over spending**
May have incentives to complete project expeditiously	Little incentive to reduce costs; any savings likely to raise profit not cut price	Supplier may add in extra features – quality standards may be too high
Could revert to fixed price once specification is frozen	**Greater scope for innovation and flexibility**	**Supplier may want to drag the project on for longer**

Also known as a time and materials contract.

Best for projects where technology is new, environment is unfamiliar

Management and stakeholder relationships may be complex and time consuming.

Client must be capable of managing this type of contract.

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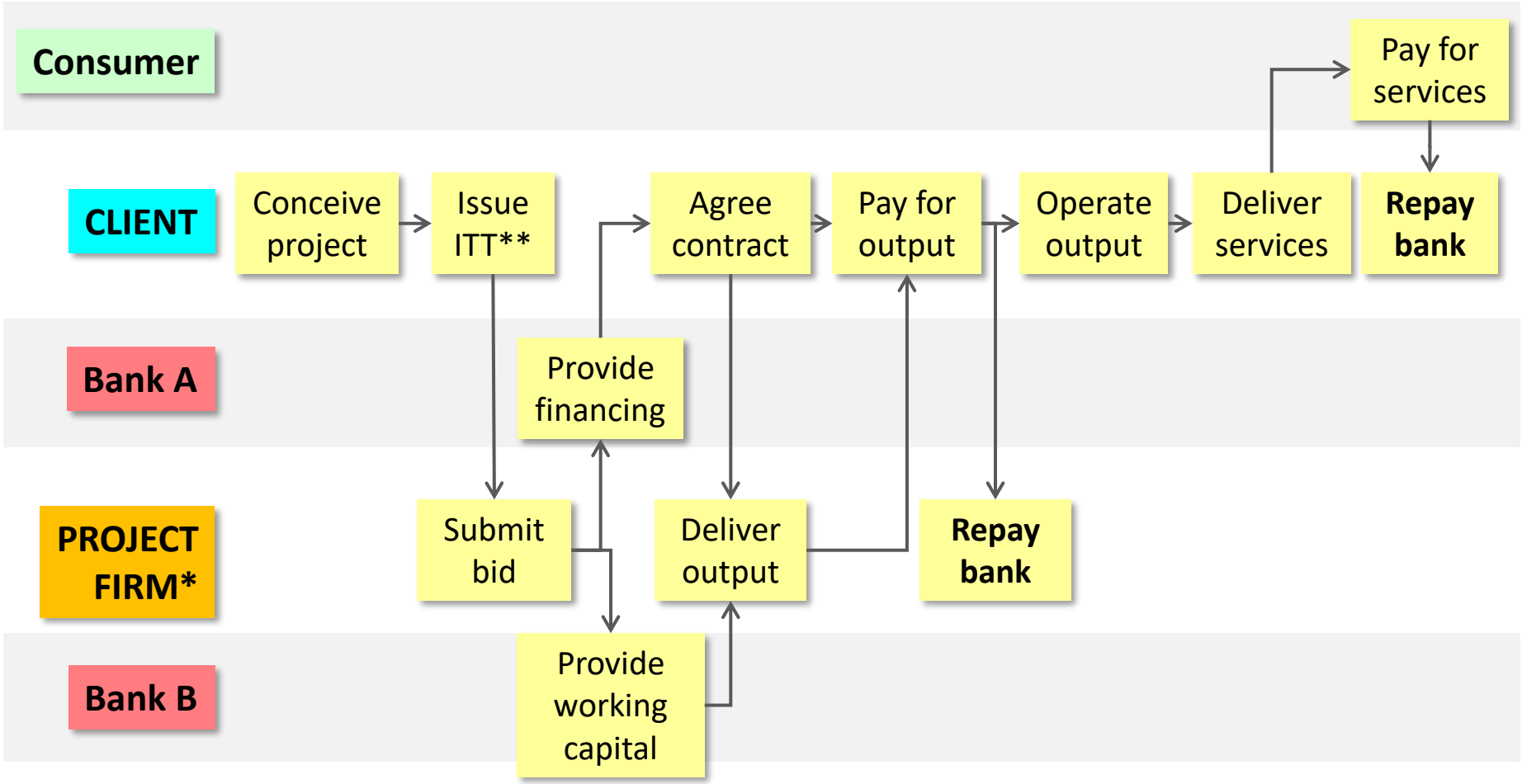
Traditional project structure



* Or **contractor**

** Invitation To Tender

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Newer forms of contract

Clients, especially public agencies, have sought ways to acquire large scale assets without paying for them up front.

Traditional model

Client pays for output on acceptance

Contractor's liability ends with acceptance

Client keeps operating revenue

Client owns output throughout

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Newer forms of contract

Clients, especially public agencies, have sought ways to acquire large scale assets without paying for them up front.

Alternative model

Client uses output created and owned by contractor

Contractor maintains output for a specified period

Contractor collects operating revenue

Ownership reverts to client at end of period

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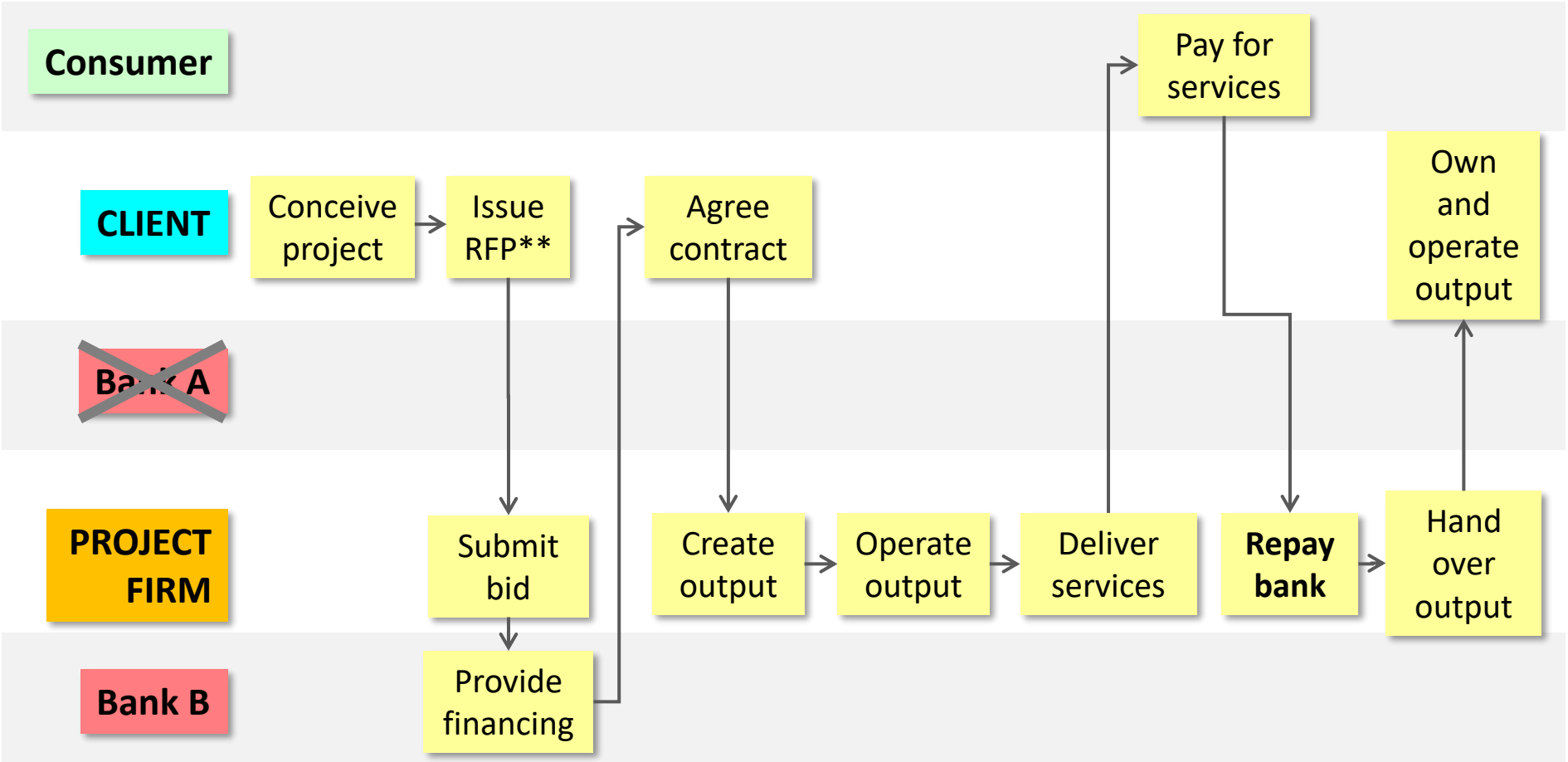
Alternative project structure



** Request For Proposal

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Through life contract

Characteristics	For supplier	For customer
Supplier recovers project cost from operating revenues managing the output in every day use	Opportunity to have a stream of income over a long term (up to 30 years)	Supplier has incentive to do a high quality job, as they have to manage it
Agreements can be highly complex	Supplier is embedded with the customer, making it hard for rivals to break in	Life cycle costs can be excessive – e.g. Financing costs on PFI contracts
If contract is long, parties may change during its course		Customer can focus on their core business, not maintaining the project output

Although they offer advantages, clients must understand the operational and financial consequences of what they are getting into.

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Alternative types of contract: BOOT

Build, own, operate, transfer

- The contractor finances the building of an asset.
- It owns the asset for a period of time, and operates it (generating revenues).
- At some point the asset is transferred to the ultimate purchaser.

The main motivation is financing projects which the ultimate purchaser cannot afford to launch.

Need to think in terms of life cycle costs, not just cost of creating the original output.

Example: Hong Kong Second Harbour Crossing, 1989.

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Alternative types of contract: DBMO

Design, build, maintain, operate

The contractor designs the output and builds it.

Then it maintains and operates it for a set period.

It is then passed over to the ultimate purchaser.

The output should be handed over at the end of the period in a well-maintained condition.

The contractor might or might not finance the project.

The project must also consider life cycle costs.

Example: Alstom Northern Line Tube train fleet 1996

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Alternative types of contract: Public Private Partnership

PPP is a general term for projects where a government or public authority enjoys use of a new asset which it could not otherwise afford – so can be BOOT, DBMO or some other formula.

But PPP can also mean a project where the contractor is paid by a government or public authority thorough availability payments or shadow tolls – typically over 30 years.

In the UK this has been called the Private Finance Initiative or **PFI**.

Most UK PFI deals look like poor value for taxpayer money – it is forecast over £300 billion in payments to 2050 will yield only $60 billion worth of assets.

Example: Alder Hey Children's Hospital, Liverpool, UK, 2015

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Pros and cons of contract types

	Traditional model	Alternative model
Pros	Clear demarcation between contractor and client **Contract is relatively simple** Well-proven approach which all parties are generally familiar with	Client can focus on output operating requirements not technology **Opportunities for innovation in design and financing** Contractor carries project risk **Contractor has to operate output so is incentivised to deliver to high standards** Contractor has to maintain output and hand it over in as-new condition at the end of the contract
Cons	**Client must understand technical aspects of solution in detail** Scope gets frozen early **Client may not maintain output adequately**	**Contract can be highly complex – thousands of pages** Contractor has long term power over client **Contractor may overcharge for operating output** Weak client can find itself with huge long-term debts **Contractor may sell the post-delivery obligations on to another party who will try to maximise profits** Contract risk may cause contractor to collapse

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