

Case Study - The Army Logistics Base

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The Singapore Armed Forces (SAF) had warehouses located throughout the island. To develop a seamlessly integrated supply chain, it was decided that all the warehouses should be centralised to enhance inventory management. With this end in mind, the Army Logistics Base (ALB) was conceptualised to meet the Army's growing demands for logistical support. The key initiative in this project was the novel contracting approach used to develop the ALB which hinged upon a Finance, Design, Build and Operate concept. Under the contract, the existing supply chain operator will be allowed to build and operate the ALB for a fixed guaranteed period.

Under a novel financing scheme, MINDEF paid a down payment while the contractor took up a bank loan, with bank repayment being paid for from the Defence Budget. MINDEF will service the loans from the savings arising from the centralisation of the ALB over a mutually agreed time frame. The contractor is responsible for the overall design, construction, acceptance and operation of the ALB.

This approach offered many tangible benefits:

- a. Transfer of Risks. It transferred the risks associated with the design, construction and operation to the contractor who is better placed to manage such risks. This ensures that the project is on schedule, fit for purpose and within costs.
- b. Harnessing of Commercial Logistics Expertise. It allowed MINDEF to tap the management experience and technical skills of commercial operators in warehouse operation instead of developing and maintaining such expertise in-house.
- c. Financial Advantage. It minimised MINDEF's cost burden, permitting the allocation of

short-term funds to other pressing priorities while smoothening MINDEF's cash flow over time.

- d. Innovative Design. It motivated the contractor to produce innovative design features that saved construction costs, conserved energy during operations, and maximised the efficiency and productivity of material handling, like Automated Storage and Retrieval System, Automatic Guided Vehicles, vertical carousels and mobile racking.

ALB Contract Features

We introduced an Open Book concept into the ALB contract to create a climate of trust that would facilitate gains sharing through greater efficiency and lower operating costs. The Open Book concept involves the contractor making available his costs and technical efficiencies for scrutiny to ensure that the annual warehouse management fees chargeable to MINDEF will be transparent. A public accounting firm with expertise in supply chain management will be brought in to audit the books and assess technical efficiencies.

Besides the Open Book concept, features were incorporated into the ALB contract to bring about the desired outcomes of high service levels, productivity and gain sharing:

- a. Measuring Outcomes. With the experience gained from the existing contracts, the following productivity indicators were pegged to the desired contractual service level: Operating Cost, Response Time, and Customer Service. Actual performance was then measured against these targets, as well as referenced against best practice benchmarked data.

- b. Encouraging Productivity. The contractor maintains a sinking fund for funding productivity investment. The investment will be repaid with the realised gains from its past years' profits and productivity gains.
- c. Gain Sharing. At the beginning of each year, the contractor will establish the projected costs upon which the management fee will be based. Upon the conclusion of each year, an independent auditor will assess the actual operation costs. Any savings in productivity will be shared between MINDEF and the contractor. MINDEF's share of the savings would be channelled toward the repayment of the bank loan. On the other hand, any deficit will be absorbed by the contractor, provided it does not stem from changes in government policies/regulations, national wage recommendations, or taxation. If the deficit is due to such changes, MINDEF and the contractor will bear the cost increase equally.

Lessons Learnt

Design Risk. Although Singapore Technologies Logistics was responsible for the design of the ALB, the contract was honed to allow MINDEF to influence the design, without bearing the design risk. This was deemed appropriate as we need to ensure that it meets operational requirements. However, in practice we had to guard against being over-zealous in the vetting of the design as we were traditionally more accustomed to bearing the design risks. This should be taken into account in future design-build-operate contracts.

Maintenance and Life Cycle Costs Risks. In order to ensure reasonable returns for the contractor within the agreed contractual period, major system and M&E maintenance and replacement are largely borne by MINDEF. Otherwise, the contractor would not be prepared to guarantee the savings needed to repay the bank loans and a longer repayment period would have been required resulting in higher financial costs. However, this is a significant risk especially if the contractor is not incentivised to take good care of the systems they operate to reduce repair costs to MINDEF and even replacement during the contract period. On hindsight, MINDEF should not have conceded to bear these risks. Recognising that the contractor is better placed to manage

these risks, they ought to be assigned these risks and have them incorporated into the overall cost transparency model.

Conclusion

MINDEF has benefited from the novel contracting approach taken for the Army Logistics Base. The design-build and operate model has resulted in a robust win-win contract to support the SAF not only for the present but also for the future. Private financing also allows MINDEF to avoid lumpy capital expenditure, thus smoothing the defence budget cash flow. However, while the benefits are persuasive, things do not always go as planned and lessons learnt have to be incorporated into future contracts to obtain better value. ■