












Post Investment Appraisals – Summary of Recommendations resulting from Learning from Experience for 2016/17 Submissions

Subject area	Recommendation	Project Source	Context
Project ; Programme interface	Ensure business cases are aligned between the Programme and Project Business Cases to ensure proper integration with downstream and donor plants		Changes in programme strategy affected project scope. Initially, there was no overarching programme business case or strategy. Programme issues drove changes to the Export functional specification, and even put the project on hold. Disruption while the strategy changed and the rework associated with shutting down and restarting caused abortive work.
	<p>Ensure a clear programme / project structure. Demonstrate separate responsibilities.</p> <p>Programme: accountable for change management, delivery of benefits.</p> <p>Project delivers a technical solution</p>		It was recommended that future IT programmes use a Business Change Manager structure to manage client / functional team requirements / involvement, balancing business decisions and system IT input. The structure would ensure fit for purpose solutions, quantifying business benefits, ensuring project gives appropriate priority and business resource input
	<p>Develop an Operating Model for governance of future enterprise-related projects. Its scope would cover business case preparation, project set up, system design and development, testing and transport to “live” production environment. Governance to include:</p> <ul style="list-style-type: none"> • How funding for future projects is secured; • How funding is allocated to programmes / projects; • Governance for smaller, tactical developments <p>Governance should be business led with strong links to the organisation</p>		Related to uncertainty over securing funding of IT projects / programmes





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	From initiation, apply a programme change management methodology	█	The Excellence Plan was not set up as a programme and did not have a clear decision making role
	Ensure opportunities for a common approach across projects are identified and initiated by the programme. This should generate cost / time savings overall	█	Certain activities within █ were common across the projects but were not communicated, resulting in some unnecessary duplication of investigation and planning to reach a solution.
Change Projects	Use an Enterprise Architecture Framework for future Enterprise Change projects. The approach would link the architecture vision (scope, business drivers, KPIs) to the business architecture i.e. a roadmap for process change linking the information systems architecture to the underpinning technology	█	There was a lack of appreciation of the scope and breadth of the █ within SL, including the discipline required by thousands of staff using an integrated HR solution as compared to previous unconnected systems.
	Plan for ongoing, open Executive support to ensure the success of a change programme. Support should be proactive and openly supportive.	█ █	It was felt that early enthusiasm and commitment soon evaporated as the programme progressed.
ISO	Set up an internal Centre of Excellence (Competency Centre) that would coordinate both ISO and business expertise. It would be the focal point for support and intelligent customer roles and a driver for additional expertise in key areas. It would be aligned to a Blueprint Vision, therefore data management skills must use this for future system implementations, having a Competency Centre focus.	█	There was a general lack of understanding within the key user community contribute to training being more limited than expected. This was important given the user interface being less intuitive and hard to use compared with the previous systems.
IT Projects	For IT ensure there is a data migration strategy that includes quality reviews, data cleansing and an approach for historic data is not transferred to ensure legacy systems can be decommissioned.	█	The project experienced significant delays due to the poor quality of data to be transferred, assumed to be suitable for transfer to █

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Programme	Ensure the right people are in place with the right level of skills, knowledge and capacity to define business requirements and functional specification to ensure an accurate translation into a technical implementation. Release full time resource from the business to ensure an effective knowledge transfer once the project team has been disbanded.	[REDACTED]	Although the appointed contractor had knowledge of the technical aspects of SAP, they did not have sufficient experience of people management systems. Equally SL did not release full time resource from within the organisation to ensure continuity of understanding of the system.
	Ensure the business case scope is sufficient to realise the required benefits. Costs should reflect full internal and external costs of delivering scope.	[REDACTED]	[REDACTED] was positioned through the business cases and seen by the business as an IT upgrade project.
	Ensure project requirements are sufficiently understood and defined prior to project initiation. This should be done through a workshop, involving all key stakeholders. Include all project inputs / output elements. This should be followed by a Validation and Verification review of activities with the Client Programme.	[REDACTED]	The Project Functional Specification was written retrospectively post project initiation.
	Produce Benefits Realisation maps prior to programme initiation. Define tangible and intangible benefits / outcomes that will be realised through delivery of scope	[REDACTED]	The programme had its own dedicated Communications resource at programme initiation which resulted in consistent messaging on the Excellence Plan being issued out into the workforce and through external media channels. This service was reduced and became part of the programme office resulting in greater difficulty in defining when benefits are realised.
	Ensure that the planned benefits derived from projects are realistic within the scope and not related to programme benefits that may rely on additional projects / activities being completed	[REDACTED]	Benefits were identified in the business case that could not be delivered without input to train additional Qlikview users which was outside the scope of the project.
	Ensure there is a sufficient time gap between project handover and delivered benefits, taking into account any dependencies on related project deliverables	[REDACTED]	The forecast time to deliver the programme benefits was too optimistic, resulting in unreasonable expectations of the project.

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Commercial	Co-locate the contractor's project and design team with the SL team to enable the efficient exchange of data / information / issues arising.	[REDACTED]	The co-location of SL and contractor teams in the contractor's offices made for effective working relationships and aided the speedy resolution of issues and meant that emerging problems could be dealt with straight away.
	Consider the use of Design and Build contracts to minimise the commercial impact of design errors.	[REDACTED]	Design delivery was transferred from SL to three contractors (in series) before being given to the EPC contractor. The change of delivery contractor led to significant rework and exposed SL to significant liability with the EPC contract.
	Avoid commercial opportunities to exploit any project delays, for example, through historic latent issues (unforeseen power cables, challenging radiological conditions, delays in waste removal, challenging culture, competing priorities feeding into the [REDACTED])	[REDACTED]	The EPC contract was NEC 3 Option C. In a facility such as [REDACTED] there are inherent challenges and delays from historic latent issues which are only revealed as work commences. These latent issues all contributed to provide the contractor with an opportunity .. [REDACTED]
	Retain key contractor resources to ensure continuity for upcoming projects, e.g. [REDACTED] projects.	[REDACTED]	The original [REDACTED] project exhausted all the originally allocated funds and the team was disbursed resulting in the restart being around a new SL IT service provider with limited expert SL input.
	Ensure the procurement process commences at a point when the project design is sufficiently fixed or bounded when the project has reached a formal hold point (Gate)	[REDACTED]	The project embarked on a tendering exercise whilst continuing to develop the basis of design, resulting in incorrect Works information and the potential for early contract change.
	Recognise that project costs will increase considerably if complex projects are transferred to the supply chain at an early stage and significant risk is transferred. Include a provision in cost and schedule ranges for alternative delivery strategies.	[REDACTED]	Conversely, involve the contractor in the design at an early stage to ensure that they are confident with delivering the project to time and cost.

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	Ensure Acquisition Strategies include incentivisation mechanisms. These should be reviewed for appropriateness whenever significant external factors impact on project scope.		The scope division of engineering design prevented the contractor from optimising the relationship between their element of the Civil, Structural and Architectural (CS&A) design delivery and the overall CS&A design delivery.
	Define the culture, relationship and level of integration with the contractor at the start of the contract and devise ways to ensure this happens.		As above.
	Avoid conflicts of interest in the supply chain. This may be applicable if there are a small number of providers in the market for a product. Nevertheless ensure regular reference to the market if project variations result in modifications being necessary to the original specification.		There was concern that the incumbent contractor was favouring its own product that may affect the value for money of the solution.
	Ensure contractor visits the site regularly to view / access work to be done rather than rely on site maps which may contain small inaccuracies.		Contractor relied on site maps to plan work on  and had to re-plan some of the work to allow for differences between site map and on-site reality.
	Ensure full awareness among the project team of the contractual scope of works. This avoids the contractor performing work outside the scope of the contract and claiming additional costs.		Work was carried out by the contractor following instructions from members of the project team. Some of the instructions were outside the scope of the contract.
	Maintain detailed records of events and issues arising to support control and claims resolution. Fact based information / data ensures an efficient and equitable resolution of disputes.		The project experienced a number of claims from contractors which, in some cases could not be corroborated.
	Ensure the timeliness and quality of early warning and compensation schemes. This avoids the build-up of claims and adversarial behaviours and improves risk management.		There were delays in addressing claims resulting in worsening relationships between SL and contractors

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	Implement regular and structured client / contractor progress meetings, focussing on resolution and closing issues. Ensure a constructive working relationship to promote joint problem solving.	As above	
	Ensure that a robust incentivisation model is in place to include meaningful pain-gain arrangements. Ensure the contractor will benefit financially but is also incentivised to avoid extensions to time and cost.		The contract terms did not incentivise the contractor to deliver to time and cost.
	Ensure clear contract terms and conditions, scope and schedule are understood and agreed before commencement of the contract. Front end planning provides a clear basis of performance, reduces ambiguity and focuses on mutual success.		The scope of the contracts awarded was not fully understood by members of the project team, resulting in some contractor work being authorised which was outside the contract scope.
	Apply a realistic estimate of uncertainty against a contractor's schedule and cost. This provides an acceptable approach to risk mitigation and management.		The time scales and cost estimates did not have sufficient allowance for estimating uncertainty that contributed to schedule and cost overruns.
Design / construction	Where possible, carry out tests off-site using mock-ups (full scale). This benefits commissioning / operator training. Also key stakeholders (end users, regulators) can see the operation in a less hazardous environment.		The project built a mock-up of the proposed solution off-site enabling off site training and testing in a less hazardous environment.
	Develop a clear strategy for the implementation of a maturing design into the Works information. Include the impact on the incoming contractor's commercial model.		There was a major change in delivery strategy, resulting in significant risk transfer to the contractor, resulting in cost growth.
	Ensure the design is delivered by an integrated delivery team. Regularly review the project delivery strategies to ensure they remain aligned to the overall project objectives. Consider changing the current strategy if it isn't delivering expected outcomes.		Overall experience of [REDACTED] project and why it was terminated.

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	Where options are considered re re-working or scrapping / replacing existing plant / machinery, consider the risks associated with re-working an old design (availability of parts and associated cost and time delay in delivery) compared with the risks associated with costs of scrapping and buying / designing a new alternative.		Time and cost was spent looking at options which continued to use an outdated existing design which would require bespoke working by contractors with the associated consequences on cost and schedule.
	Ensure a thorough review of the market for commercially available equipment from suppliers who are expert in their field before designing / developing in-house. Considerable savings in time and cost should result.		As above.
	Regularly seek out fit-for-purpose opportunities and efficiencies. Challenge functional specification if small changes can yield big savings in cost and lead times.		The specification included a specific size access hole. By agreeing to a small change in the size, considerable savings in cost could be realised as commercially available models of manipulator could be procured.
	Where activities involve ground clearance, for example to install foundations etc. select solutions that minimise depth to minimise the risk of encountering existing works, e.g. underground cables. This will also reduce the amount of waste disposal		The project included selection of barrier posts. The selected option involved a minimal depth of foundation thereby reducing the risk of clashes (underground cables etc).

Post Investment Appraisals – Programme / Project activities - positives

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Change Projects	<p>Co-location of the project team and a dedicated facility supported training and knowledge transfer</p> <p>The external Project Manager and the Core Project Team had the right level of skills, knowledge and experience with clearly defined responsibilities and accountability.</p> <p>Delegated authority to the Project Manager and Project Sponsor</p>	<p>■</p> <p>■</p> <p>■</p>	<p>Enabled the development and publication of user guides and materials to a high standard that were easy to follow.</p> <p>This was reflected through a robust governance framework with clear direction and leadership.</p> <p>Resulted in efficient and effective decision making within the Project Team.</p>
IT Projects	<p>Significant technical issues were overcome by the project, including delivery of the ■ functionality at the time of a rolling Active Workbench modernisation which presented severe system interface issues.</p>	■	<p>A proven SAP governance model of development, test, implement, transfer to production support was put in place and the impact on existing SAP finance and commercial operations was appropriately controlled.</p>
Programme	<p>The ■ had a strong approach to Programme Governance</p> <p>The overall approach encouraged more of a collaborative approach with the delivery division leadership teams</p>	<p>■</p> <p>■</p>	<p>The Programme Office restructured the monthly programme board in line with one single 'Programme Management Plan' to ensure that it was more output driven to support the mind-set of adding value across the business.</p> <p>Business change managers owned the delivery and identified areas of successfully embedded change. At transition point, it was reflected that many of the initiatives are now viewed as business as usual</p>
Commercial	<p>Through re-tendering the main EPC scope (which also helped to develop a greater understanding of the risk and uncertainty within the whole project scope), a market tested project cost and schedule were identified.</p>	■	<p>This initiated the search for an alternative approach, and overall this has resulted in a solution being identified that is expected to be available earlier and cost significantly less than the extant ■ scheme.</p>

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Design / construction	<p>Handover - The project team proactively engaged with the owner throughout the project lifecycle to ensure handover was completed in accordance with client requirements and an unproblematic/straightforward handover was achieved</p> <p>Information/Knowledge Management - Throughout the project lifecycle, the project team produced Note for the Records (NFR's) for every discussion, decision, meeting etc. The project obtained sign off from the relevant stakeholder on all NFR's.</p> <p>Work Planning - Early engagement with Facilities Characterisation enabled the project to dispose of the waste quickly and efficiently whilst excavating</p> <p>Proactive Stakeholder Engagement - a key risk for the project were the interfaces with plant operations whilst the project was being delivered</p> <p>Optioneering - Use of shallow foundations for XXXXXXXX</p> <p>A key risk for the project was potential clashes with unknown services below ground level. In order to mitigate this risk, the design solution for the XXXX was to utilise a proprietary Line-backer system supplied by XXXX</p>	<p>██████████</p> <p>██████████</p> <p>██████████</p> <p>██████████</p> <p>██████████</p> <p>██████████</p>	<p>A successful pre - handover site inspection, handover readiness review and final site visit was carried out prior to formally transferring responsibility of the constructed plant and equipment to the client.</p> <p>Project handover to operations was achieved 5 months earlier than the planned date of July 2016</p> <p>When challenged, NFR's were used by the project as evidence certain decisions had been approved and bought into by the stakeholder</p> <p>Approx. 750 bags of spoil (equating to 765 tonnes) from ██████████ was removed and disposed of in 4 - 6 weeks rather than 23 weeks</p> <p>The project proactively engaged with all Stakeholders affected by the proposed work, adapting the design to suit their requirements and to ensure that there are no delays or conflicts during the construction and commissioning phases</p> <p>The key advantages to this system is that the main anchor block foundations are relatively shallow (800-900mm below ground) that will not clash with the majority of services thus minimising delays, minimising excavation and mitigates the key risk of potential services clashes.</p> <p>The potential saving is difficult to quantify but potential delays from clashes with unknown services could lead to circa 2-4 week delays and in the worst case re design, as witnessed on the ██████████ project.</p>