Introduction and Background

In July 2004, London-based BPO vendor Primesource completed the acquisition of a majority stake in the Frankfurt-based Securities Services Bank (SSB), a subsidiary of the large, diversified and global bank Keytrust Bank. The acquisition was part of an aggressive expansion by Primesource from the UK into mainland Europe.

SSB’s core business is back-office clearing and settlement of securities trading for a number of private German banks, including Keytrust Bank’s private banking group. This particular segment of the banking industry is associated with high entry barriers and with moderate levels of cost competition at the transaction level.

The acquisition case was built around an ambitious business plan that called for rapid growth of SSB’s business over the next three years, accompanied by cost reductions and efficiency improvements. Specifically, the business plan relied on the winning of five new large private banks as justification for a €40 million IT investment directed at improving service quality and lowering IT maintenance and consequently banking transaction costs.

By November 2004, however, Primesource became increasingly aware of a number of problems with SSB’s IT systems that presented a serious threat to its business case and hence the whole raison d’être of the acquisition. At the heart of the IT organization at SSB, and key to its future competitive performance, was Keytrust Bank’s IT arm, known as KBtec.
With the acquisition of SSB, Primesource had created a complex and intertwined corporate structure in which Keytrust Bank remained a central stakeholder. Firstly, Keytrust Bank had retained a minority holding in SSB. Secondly, Keytrust Bank was a major SSB client. Thirdly and finally, KBtec was responsible for a substantial part of SSB’s IT resources and operations.

The cost of IT services provided by KBtec and its main supplier, IBM, were extremely high. Of particular concern for the business case were the high costs of “migrating” newly-acquired clients onto the IT platform, only a small fraction of which could be clawed back directly from the client, with remainder coming out of transaction margins. Moreover, SSB was a captive client of KBtec, with little leverage afforded by the post-acquisition corporate structure. Finally, a number of production system outages late in 2004 gave rise to a further concern that KBtec’s ageing systems, some dating back from the early 1990’s, also represented impediments and future risks to Primesource SSB’s growth strategy.

Senior management at Primesource in London began to voice the escalating fear that lack of control over KBtec and poor alignment of KBtec’s apparent status-quo-preservation interests with Primesource SSB’s commercial interests would lead to deadlock, invalidating the acquisition business plan, and in the worst case, even endangering SSB’s current (and profitable) business.

In February of 2005, SSB launched a 12-week strategy project codenamed SPOR – Strategic Platform Options Research – whose objective was articulated as follows:

“To evaluate strategic options for the evolution of SSB’s current IT platform and provide a recommendation for a mid-term action plan including a high level financial investment analysis.”
The project was multi-disciplinary in nature and was staffed by 8 people drawn from three different quarters:

- Internal SSB IT departments
- Millennium, a London-based management consulting firm
- NuSoft, a software vendor (and potential competitive supplier to KBtec)

My involvement was as an external consultant subcontracted by NuSoft. In this term paper I intend to examine the SPOR project from a Decision Science perspective.
Intelligence Phase

Although this was not the terminology used, the SPOR project began with a clear intelligence phase, which lasted for the first six weeks, or about half of the project.

The Terms of Reference for the project provided a strict definition of the scope of investigation, giving it a strong operational focus: to examine the technical and financial parameters of the main IT platforms provided by KBtec, along with possible alternatives. Notably, the project was not mandated to probe the relationship motivations between SSB and Keytrust Bank which, while much less quantifiable, would arguably prove more significant over the long term than pure technical considerations.

I regard this scoping as a form of “large-scale” framing. It is difficult to assess this type of framing as it is clearly necessary within the constraints of limited resources while at the same giving much-needed direction, and in any case is the result of an executive decision by the project sponsor. In general, I think the stated scope was to be accepted simply because it was what the client (Primesource SSB) wished.

Anchoring also existed in that, from the outset, the project identified three candidate IT platforms theoretically capable of serving SSB’s core securities business in the medium term:

- EuroSec - the incumbent solution and key platform supported by KBtec on SSB’s behalf, with extensive historical sunk costs, and subject to high continuing maintenance charges, time delays and periodic unreliability

- Sectrans – a solution developed by NuSoft, an independent vendor, and perceived at the outset as the main challenger due to its relatively low licensing cost and full support for German market requirements
MultiTrade – another in-house solution but in this case developed in London by another unit of Keytrust, and perceived at the outset as a potential “dark horse”, despite a lack of German market support, due to a more modern architecture and an immense sunk cost investment of a claimed €180 million.

These were relatively loose anchors, however, since the Terms of Reference for the project called for an elaboration of all “solutions”, not even just all “systems” or “platforms”.

Participation by NuSoft was an example of a potential selective perception bias, since the company was in a position to advocate its own solution. In addition NuSoft was also the only independent vendor – a case of lack of diversity. On the other hand, NuSoft brought considerable expert knowledge regarding its own product and the solutions marketplace to the table.

Equally, it would be possible to argue that the incumbent EuroSec solution represented a similar bias, this time in favour of the status-quo, in which case the participation of an outsider such as NuSoft afforded a level of rigor to counteract such bias. By extension, the EuroSec and MultiTrade advocates provided similar counterbalances to NuSoft bias.

In fact, while KBtec was invited to participate, and considerable effort was devoted to persuading them to do so, they remained non-committal during the whole project.

Information-gathering activities centred on four major subject areas:

- Functional coverage – particularly support in EuroSec of German market requirements and extensive customisation for SSB
- Operational characteristics – system performance and reliability
- Financials – costs of hardware infrastructure, software, and operations
- Future strategy
Functional coverage proved to be one of the most difficult areas to address. By definition, the incumbent, EuroSec, was the benchmark that any other platform would have to meet or, in cases where EuroSec was known to be deficient, even exceed. The alternative platforms were expected to require substantial investment to achieve the benchmark, since EuroSec is a sprawling legacy system developed partly in line with SSB's business model. However, huge differences in nomenclature between platforms made the gap extremely hard to quantify.

Operationally, SSB and KBtec have a relatively high level of process maturity, which meant that extensive information was available on the operational behaviour of the incumbent IT systems.

However, the financials were less straightforward. While “lump-sum” costs were available (because these were invoiced), more detailed breakdowns were more difficult to come by, as KBtec and IBM were not always transparent about their cost models, and KBtec chose not to participate in the project. This left the project team with invariably time-consuming and frequently inconclusive forensic analysis.

Finally, no information was available on KBtec's future strategy, leaving the project completely ignorant in terms of understanding the medium-term picture.

For Sectrans the situation was almost the reverse. NuSoft had no client with a comparable scale of operations to compare with SSB, and even if it did, the client might not be prepared to reveal sensitive quality-of-service data to a potential competitor. As a result, NuSoft needed to rely on older data and extrapolate. For all of the other subject areas, however, NuSoft was able to supply complete information.

For MultiTrade there was a broad lack of information, particularly on operations, financials or strategy. What little information there was on functional coverage for a UK-developed system proved almost impossible to normalise into a form that could be compared with EuroSec or Sectrans “made in Germany”. Time constraints meant
that as a result, consideration of MultiTrade faded very rapidly halfway through the
intelligence phase, as the team sought to maximize productive use of limited time.

With hindsight, it is hard to see how the intelligence phase could have been plausibly
improved. The framing in the Terms of Reference was well-considered. The risk of
major biases was mitigated, other than that another independent vendor could have
been invited, with the potential downside of creating competition between the vendor
participants on the project. The information-gathering process was unavoidably
imperfect, because KBtec and, to a lesser extent Keytrust Bank London, could not be
compelled to cooperate. Nor could any of NuSoft’s clients. Moreover, time was short.
It is conceivable, nevertheless, that a better-managed and more concerted effort to
engage with Keytrust Bank London could have elicited a more fruitful response.

In summary, the human, not operational, aspects governing the information supply of
such a strategy project are deserving of early and sustained attention, and this, along
with the functional analysis, could have benefited from a greater time investment.
However, it must be borne in mind that on a strategy project there is never time to
investigate every aspect to any great level of detail – the watchword being “good
enough”. On the SPOR project, given the sums of money involved, “good enough”
meant “correct to within €5 million”.

**Design Phase**

The design phase lasted about four weeks, with the objective being to identify solutions and courses of action. For each course of action, we needed to perform an “interest” categorization and quantification according to various dimensions, assess the solution feasibility, and for the surviving solutions develop normalized business cases as basis for an objective comparison.

However, the potential design space for SPOR was complex. The intelligence phase had elaborated 15 solution evaluation dimensions, the major ones being technology, functionality, time frame, reliability, cost model, partnership model, product sourcing, cost, and risk. These dimensions were used to stimulate creative thinking about the possible solutions, most of which were defined during two days of intensive brainstorming.

Given that any solution is only achieved step-by-step, multiple such possible courses of action, and combinations thereof, were identified. Using the status-quo as a starting point we could develop a chain of actions and decision-points, as follows:

1. **Do nothing/status-quo:** Perform only necessary maintenance on EuroSec

2. **Modernize:** Upgrade EuroSec over the medium term to reduce maintenance costs and increase operational reliability

In the event of modernization, we had two further courses of action, effectively determining the system that would become the “target” of the modernization, namely:

1. **Single platform:** Modernize EuroSec using KBtec as the contractor

2. **Dual-platform:** Switch from EuroSec to an alternative, more modern platform from a vendor or other supplier, candidates being Sectrans, MultiTrade or another market solution
3. Dual-platform by acquisition: Acquire another bank and consolidate platforms

Acting orthogonally to the single- or dual-platform strategy was the phasing approach, namely:

1. “Big-bang”: Develop the target system in parallel to the incumbent to a level of maturity such that the majority of the platform could be replaced during a single large roll-out phase

2. Evolution: Develop and upgrade modernized components in a series of smaller incremental steps, with stabilization occurring between each step

Having developed courses of action at a high-level, we then looked into how they would operate as projects – in terms of cost, resources, timescales and risk – and then turned the most promising into business cases.

There was significant debate on the nature of prior sunk costs and their relevance to switching away from the incumbent. On the one hand the argument went that substantial sunk costs by definition reflected a high level of platform and process maturity and that switching to a dual-platform strategy would likely re-incur a significant proportion of those costs to achieve an equivalent level of maturity. On the other hand, it was argued that the alternatives were not necessarily less mature, in many respects the very opposite, while SSB had been suffering enormous maintenance costs and timescales due to its outdated platform – the flip side of maturity.

The latter argument prevailed once it was accepted that SSB was paying in excess of 2-3 times the market rate for maintenance. Moreover, at least in NuSoft’s view as a market vendor, maintenance timescales were in many cases unusually long. This was more difficult to prove, however, even though it was generally accepted that EuroSec’s legacy architecture posed a significant barrier to change.
It was also recognized that switching to a dual-platform strategy would incur significant additional risks to service quality and continuity while switching was in progress, with real benefits only accruing once the majority of the incumbent platform had been replaced. While management of change at KBtec left something to be desired in itself, adopting a second parallel platform could only increase risk by introducing a new supplier relationship, new technology and new expertise requirements. In addition, KBtec's potential response to a dual-platform strategy needed to be taken into account.

Banks are extremely risk-averse, and SSB is no exception. Banks are often prepared to pay a premium for services if they feel that their associated risk is low, which was a principle very well-understood by KBtec (and also fairly well-managed up to the point when operational failings began to impact KBtec's risk profile in the eyes of SSB, providing the trigger for the SPOR project). Fear of switching had traditionally been a very strong emotion felt by SSB management, and was very much in evidence, even in the Primesource era, on the SPOR project. This was only compounded by the difficulty in quantifying such switching risks, and this was never satisfactorily addressed on the project.

Costs and timescales were thus the sole directly quantifiable and comparable means of assessing solution feasibility. Risk assessment consisted primarily of identifying key risks and mitigations.

With hindsight, given the qualitative nature of risk assessment, a higher quantitative standard could perhaps have been achieved if the necessary expertise had been available within the project team. Where quantitative analysis was possible, the project showed itself to be effective in identifying assumptions and biases, and mitigating these.
Choice Phase

The choice phase took about two weeks to prepare. The field of candidate solutions was narrowed down, and the relative merits of the remaining candidates summarized in the form of a presentation delivered to the SSB management board.

As an approach, any kind of “big-bang” was rapidly discounted. While it offered the potential to achieve the desirable modernization goal more quickly overall, and therefore at a lower cost, a single project of this size would be extremely difficult to estimate accurately, and the amount of delivery and operational risk in creating a single large change would be huge. Moreover while the modernized solution was being developed over some considerable period of time, there still remained the issue about what to do with EuroSec in the interim. While the obvious assumption would be status-quo, it is conceivable that urgent short-term modernization pressures would build up due to circumstances unforeseen by the SPOR project, such as new ways of doing business, more corporate activity involving SSB, or regulatory change.

Likewise, the in-house modernization option was also discounted, as it was felt that KBtec had a poor track-record on quality and little incentive to innovate.

Both elimination decisions were made on “gut-feel”. The final project recommendations were, however, made almost entirely on the basis of cost.

The chief recommendation of SPOR was to use a vendor solution, Sectrans, in preference to finding or acquiring a new partner. The factors relating to a Sectrans implementation were articulated in a detailed business case, which also showed a saving of €25 million over five years, even accounting for switching costs.

As a representative of NuSoft, the Sectrans vendor, the choice phase was not as transparent to me as I would have liked. Despite the positive outcome from my
employer’s perspective, I knew that the real choice would probably be made on the basis of risk, of which there were three aspects:

1. The switching risk addressed directly by the SPOR project

2. The risk that NuSoft had biased the project outcome

3. The risk that NuSoft, as a small independent software vendor, would actually have the resilience and resources to help SSB achieve a switch

The analysis of the switching risk had been transparent on the SPOR project. As to my own bias, the SPOR project, by its organization, had attempted to counteract this possibility, and I myself had made reasonable efforts to be objective, although I knew that subtle biases of selective perception could still remain. But finally, the vendor risk had not been openly addressed, and in hindsight I think this was a strong indication of political dimensions beyond my direct knowledge.

The fact that I did not confront this directly at the time is an example of another selective perception bias. In hoping for (if not actively working to achieve) a positive recommendation, I failed to properly account for all of the elements that SSB would choose to consider, including vendor risk. A better approach at the time would have been to confront this head-on, and if vendor size and longevity was an issue, to identify mitigating measures. If the SPOR project leadership had still chosen not to address the issue, the political dimension would have been more clearly apparent. If not, the issue of vendor risk would have been more comprehensively addressed and reflected in the project recommendation.

In short: the choice phase examined costs but was somewhat ambiguous on risk. This was a framing issue, and I failed to oppose it, which I should have done even though this action itself carried a risk of a different recommendation. This would at least have more realistically reflected events after the SPOR project ended.
Postscript

SSB never implemented any of the recommendations of the SPOR project.

Throughout the design and choice phases of SPOR, KBtec management became increasingly strident in its rhetoric and in emphasizing the importance of continuity and by comparison the risk of change. It also showed an increased willingness to negotiate.

In the period following the SPOR project, possibly because of intensified high-level dialogue between KBtec and SSB management, the SSB board postponed a decision on the future of the IT platform several times. In due course, for reasons ostensibly unconnected with SPOR, there was also a board reshuffle, with some Primesource executives returning to the UK, resulting in the SSB board being restored to almost its original state at the time of the acquisition. Other events also occurred in the background. Firstly, KBtec successfully migrated a new client – Neuville Bank – onto EuroSec within the planned timescale, albeit at a very high monetary cost. Secondly, Primesource purchased a minority stake in a Spanish IT service provider, and a moratorium was declared on all IT sourcing decisions at SSB.

It is unclear whether, post-SPOR, concessions were obtained from KBtec and, despite KBtec’s apparent willingness to cooperate, whether they had any long-term effect. If concessions were made, there was at least some concrete value to SPOR; otherwise, it had merely been a forum to articulate and debate alternatives. But either way the project choice ultimately became a victim of sunk-cost and status-quo arguments and possibly sheer management inertia. Since SSB is still operating and still profitable, it is not possible to say that these are clear-cut biases. In fact. SSB seems to have resorted to a simple heuristic, at least in terms of profitability: “if it ain’t broken, don’t fix it”. Given the complexity of the arguments, and in particular the lack of risk quantification, this is difficult to refute.