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Business Architecture: A Suitable Basis for Planning and Designing a Business Process Outsourcing Initiative

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Abstract

Business architecture, one of the components of enterprise architecture frameworks, is an underutilised but potentially powerful and useful notion for Information Systems (IS) business analysts and solution architects. The development of a future-oriented or target state business architecture representing an achievable operational framework for a business and comprising a set of business processes designed for high-performance can provide an effective basis for addressing and solving an organisation's strategic issues and problems. This paper explores the concept of business architecture and demonstrates its usefulness by showing how it was utilised in planning, designing and communicating a business transformation based on business process outsourcing.

Keywords

Business Architecture, Business Process Outsourcing, Enterprise Architecture

INTRODUCTION

This paper demonstrates how a pragmatic, practical and future-oriented business architecture can be used to plan and design a business transformation which includes business process and information systems innovation and change. The case study presented in the paper gives a practical example of the usefulness of business architecture in planning and designing a business process outsourcing (BPO) initiative. The case also demonstrates the value of involving line managers and supervisors in determining potential business process improvements and structuring their contribution within a business architecture that the organisation and the wider enterprise can subsequently adopt.

Before presenting the case, however, this paper reviews the literature on business architecture and develops a theoretical view on an appropriate business architecture for engaging business management in the solution of strategic business and IS concerns.

THE CONCEPT OF BUSINESS ARCHITECTURE

Enterprise architectures consist of a number of component architectures. There are four commonly accepted component architectures: the business architecture, the data architecture, the application systems architecture, and the technology architecture (TOGAF 2009). The broadest and highest level component architecture is the business architecture. Further, the other architectures are derived from, and thus to some extent are determined by, the business architecture (TOGAF 2009).

Business architecture, according to the Open Group, "defines the business strategy, governance, organization and key business processes (TOGAF 2009, page 10). The Open Group notes that some of the elements of business architecture, in particular the strategy and governance elements, are already likely to be catered for by organizational activities outside of architecture development (TOGAF 2009). Another definition, with a slightly different emphasis is given by Balmes (2007) who refers to business architecture as the operationalisation of the business strategy. Balmes (2007) also writes that "Business architecture defines the structure of a business in terms of its components, and how they operate with a special focus on the integration and interrelation of people, processes and information." He continues: "The driving force behind the business architecture is the set of core and support processes that transcend organisational boundaries." Other writers use the term "blueprint" in describing business architecture. For example, Ulrich (2009) reminds us business architecture is a blueprint that allows us to view the business from a variety of perspectives. Following from this, when executives have complex issues they need to tackle, business architecture can assist them in envisaging the cause and identifying the solution (Ulrich 2009, Whittle and Myrick 2005).

Cheyinski and Millard (1998) point out that just like designing complex buildings requires architects to pull together different disciplines, business transformations require us to pull together business processes, IT and organisational development ideas to create an architectural sketch of the proposed outcome or destination. The process architecture classifies and describes all the processes of the business and their respective added values. It is the core building block of the business architecture (Rohloff 2005).

The concept of the value chain is the starting point for the development of a business architecture (Brown 2009). Brown (2009) refers to the value chain as a model that describes a series of value-adding activities connecting a company's supply side (raw materials, inbound logistics, and production processes) with its demand side (outbound logistics, marketing, and sales). The value chain as first presented by Porter (1985) is shown in Figure 1 below. By analysing the major domains of the value chain, namely inbound logistics, operations, outbound logistics, marketing and sales and service, managers are able to redesign their internal and external processes so as to improve efficiency and effectiveness. How the value created through business processes finds its way to the customer is referred to as a value stream (Brown 2009).



Figure 1: The Value Chain (Porter, 1985)

In order to determine the potential for business performance improvement, a top-down approach known as domain decomposition is undertaken (Dodani 2008). This technique consists of the decomposition of the value chain into domains consisting of coherent business activity systems and subsystems, including the flow involving processes and sub-processes. The domain decomposition is supported by business process modelling which takes place following the identification of key business activities arising from business component design (Dodani 2008).

Dodani (2008) informs us that process modelling usually starts with a business analyst modelling the As-Is (current) state of the business process. Within the process model, analysts represent work activities or tasks as steps in the process. As the process model evolves and is reviewed by other business stakeholders, the some of the "tasks" will evidence potential for serious improvement. Business analysts then subsequently define the To-Be (future) process, and then analyse the process to determine process run-time characteristics including costs, resource requirements, and process bottlenecks (Dodani 2008).

The first step of the business architecture approach is to describe and present the As-Is or baseline architecture that represents what is currently in place. This is followed by the development of a To-Be or target state architecture which represents what we are trying to achieve (Rohloff 2005). From an analysis of the difference between where the organisation is (As-Is architecture) and the where it needs to get to (To-Be or target state architecture) transformation projects are established.

Both enterprise and business architectures should be flexible and broad-based in terms of its potential uses, being capable of supporting the planning and implementation of various strategic initiatives (Whittle and Myrick 2005, Gregor et al 2007, Ylimaki and Halttunen 2005/2006). Indeed, the OMG Business Architecture Working Group (2008) describes many situations in which business architecture can play an important role including business transformation, regulatory compliance, merger and acquisition planning and deployment, new product and service rollout and outsourcing a business function.

As a particular example of the use of business architecture in strategic business and IS problems, the case study presented in this paper demonstrates the effectiveness of business architecture in planning and implementing a business transformation based on a BPO initiative. In the case study presented in this paper, the central focus of the business architecture that is developed is a set of high-level processes which include considerations of efficiency and effectiveness. Such efficiency and effectiveness considerations include in particular the critical success factors of risk and compliance together with the traditional 'Iron Triangle' (Atkinson 1999) of time, cost and quality. Since the case study is focussed on the use of business architecture to plan and manage a BPO initiative, a brief review of the notion of BPO is provided in the next section.

BUSINESS PROCESS OUTSOURCING

Outsourcing vendors or providers in BPO deals take primary responsibility for their client's IT-enabled business processes (Shi 2007). Sen and Sheil (2006) suggest it is in the interest of outsourcing providers to better understand the firm's needs and argue that providers should be in a position to flexibly adjust their offerings to meet the client's real and particular needs. This requires a deep knowledge of the client firm on the part of the provider. It also requires trust to be established between client and provider. If they can attain a close working partnership with the client based on knowledge and trust, outsourcing providers can really begin to add strategic value to the firm (Feeny et al 2003).

Many organizations have achieved significant value by being willing to try new and creative outsourcing approaches (Linder et al 2002). Linder et al (2002) advise that executives should "use the compass" to aim the outsourcing solution in the right direction, and then add their own innovations to make relationship truly distinctive.

According to Linder et al (2002), BPO once had a clear place in the executive's toolkit—it was used to achieve cost savings in transaction-intensive, back office business processes - but that has all been changing for some time. BPO, they claim, is emerging as a flexible and powerful approach that business leaders can use to achieve a wide range of tactical and strategic aims (Linder et al 2002). This includes areas of the primary value chain that involve, among other things, customer management. Along similar lines, Ghodeswar and Vaidyanathan (2008) inform us that companies are increasingly using strategic and transformational outsourcing to seek improved business focus, mitigate risks, build sustainable advantage, extend technical capabilities and free resources for core business purposes. Further, competitive advantage can be gained when the most appropriate business processes are performed more effectively and efficiently by external suppliers (Ghodeswar and Vaidyanathan 2008).

Shi (2007) explains how this BPO growth into more strategically sensitive areas, including those that impact more directly upon customer relationships, brings with it a different kind of risk that needs to be managed. This risk is more strategic in nature, and managers, particularly those from the client companies, need to pay particular attention to managing them (Shi 2007).

Given the above issues concerning BPO, the authors of this paper believe that a business architecture based on business process models can be extremely beneficial in planning and managing a BPO initiative through the various issues and problems. It can, indeed, be a particularly useful communication device in building a shared understanding between the outsourcing partners regarding the scope and nature of the initiative. Whilst the OMG Business Architecture Working Group (2008) mentions the potential of business architecture in this area, there is very little else in the literature, and certainly no detailed case studies of this practice. Thus this paper makes a significant contribution to the IS and business literature by demonstrating the practical effectiveness of business architecture in planning and designing a business transformation based on a BPO initiative.

CASE STUDY

Background

The case study took place in a superannuation company (which for the purpose of this case study we will call SuperCo) in Australia in 2008/09 shortly after the global finance collapse, at a time when, in view of the resulting significant downturn in the value of superannuation investments, the company was finding it very difficult to justify their relatively costly administration and associated high service fees.

The organisation was structured into five divisions: Superannuation Administration, Customers Services, Stakeholder Services, Business Transformation and Support Services. At the time of the study SuperCo administered a superannuation fund for over 150 employers, involving over 36,000 current employees, in excess of 8,000 pensioners and 36,000 former employees.

Sixteen interviews with senior and middle managers were carried out by the authors of this paper to collect data on the development of a business architecture for the purpose of planning and implementing an outsourcing initiative. The interviews were each about two hours in duration. The interviews were transcribed and analysed with a view to constructing a meaningful and coherent narrative of the case study (Boje 2001, Flyvbjerg 2006). One of the authors was a participant observer of events in the case (Sullivan 2001)

The BPO Initiative

In late 2007 the Superannuation industry had been through significant change associated with government superannuation legislation designed to provide greater choice for consumers and also to encourage over 55s to continue to stay in the workforce longer through 'Transition to Retirement' incentives. The organisation had

taken part in an international superannuation industry benchmarking exercise relating to costs and associated fees. The results of the exercise highlighted a significant gap between the company and their industry peers, suggesting that processing costs were higher in SuperCo than in almost all other companies that took part in the study. Furthermore, a detailed strategic analysis of the company determined a number of key threats that the company faced in the foreseeable future, including a high-cost administration function that had little long term prospect of being competitive due, in part, to the small size of SuperCo. The company also suffered from a lack of organisational capacity to efficiently handle regular industry changes mandated by government.

Further bad news was received regarding SuperCo's information systems. A report on the viability of SuperCo's key operational superannuation information system, referred to within SuperCo as the Superannuation Administration System or SAS, highlighted a number of serious weaknesses, not the least of which was the high cost of making changes to the legacy platform. The maintenance and development of the system was subject to a rather unsatisfactory external provider contract that made any changes very expensive and very slow. This scenario increased pressure on SuperCo to replace the system at the earliest opportunity. As a consequence, however, of a web of problems concerning the administration process, including increased competitive pressure, the high cost generally of the administration function, and the incapacity of the organisation to provide any internal solution in the medium term to the superannuation administration information system problems, a decision was made to outsource not just the administration information system, but the complete administration function. This function was central to the organisation's primary value chain, and hence this outsourcing initiative had the potential to transform the organisation. It of course also meant that if the initiative was handled badly there would be extremely serious consequences for SuperCo.

The following outcome goals were provided for the outsourcing project:

- Improve client focus, client retention and client growth;
- Lower operational costs;
- Attain greater process efficiency and effectiveness within SuperCo;
- Increase business intelligence;
- Improve compliance with State and Federal Government legislation;
- Improve product differentiation and growth;
- Improve accuracy and reliability for member data transferred from employer organisations

The goals were adopted by the project team responsible for the outsourcing initiative and subsequently formed the evaluation benchmarks for measuring market sourced solutions. In support of this challenging agenda, the organisation developed a new Business Transformation Division with responsibility for improving many aspects of the business, including the outsourcing of the superannuation administration function. A solution architect with extensive experience in business analysis was employed to deal with the strategic issues and problems facing SuperCo, including the BPO initiative regarding the administration function. In dealing with these tasks the solution architect was assisted by SuperCo's team of four business analysts who now reported to him.

The solution architect determined that the development of business architecture would be effective in underpinning and enabling the analysis and solution of a number of strategic initiatives, including, of course, the BPO initiative. The development of a business architecture to support the planning and implementation of the BPO initiative was set as his first priority. High level models of the business processes that could potentially be outsourced, together with their connecting business processes, would constitute the focus of the business architecture of interest. Development of such a business architecture was commenced using the business process management (BPM) stages of Discovery, Analysis and Design based on the 8 Omega Framework (BTP Group 2007).

The Discovery Stage

The Discovery Stage determined both the scope of the business architecture development for the BPO initiative and the nature of the business processes within that scope. The analysis was focused on the superannuation administration system. As mentioned earlier, it had been decided that this legacy system was to be outsourced along with all the processes it supported. This task involved the business analysts in determining all the business processes that were supported in any way by the system.

The business analysts began with simple intuitive definitions of the business processes involved, which came from discussions with the administration function employees. Consequently they also worked to determine all the inputs, outputs, enablers and guides (Burlton 2005) for the superannuation administration system. The inputs to the system consisted of information, forms, requests and so on, while the outputs consisted of statements, payments, reports and the like. The enablers were taken to be other IT systems, skilled persons and so on, while the guides consisted of regulations, policies and guidelines (Burlton 2005). For ease of display, analysis and checking, the information was coded into a business context diagram based on the work of Burlton (2005) thus

giving a clear overview of the relationships between the Superannuation Administration System and the processes it supported (see Figure 2 below). This pictorial form of the relationship of processes with the system helped the business analysts cope with the detail. It also helped the business analysts validate the relationships and the associated information. From this analysis, well-defined business process definitions and descriptions emerged of those processes that interacted with the superannuation administration system. This was the beginnings of the As-Is business architecture for the BPO initiative.

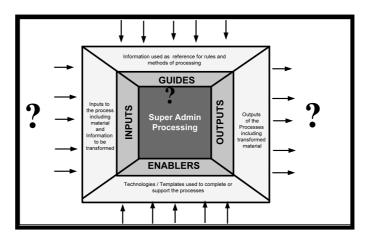


Figure 2: Context Diagram Adapted from Burlton (Burlton 2005, page 34)

The next step in the Discovery stage consisted of SuperCo's business analysts examining the current within-scope business processes and identifying general weaknesses in them. This was accomplished by business analysts working with the business unit managers and supervisors determining the details of the high level process involved. This work further progressed the As-Is Architecture development. From the general weakness, inefficiencies and problems identified, the SuperCo business analysts were able to produce a series of 'rich pictures' (Checkland and Scholes 1990) that simplified the interpretation of the discovery.

A workshop was then planned to present the Discovery material to the SuperCo Executive Team. The executive managers were somewhat startled at the expressive account of the business problems contained in the rich pictures, but were pleased at the clarity and impact that the pictures achieved. Overall there was a positive response from the executive team, and they were supportive of the need to progress to the Analysis stage in search of genuine measurable improvement.

The Analysis Stage

The Analysis Stage took the defined business processes from the Discovery Stage together with the expressed weaknesses and problems, and began the specification of business improvements of the processes. Broad business area understanding was the objective in what the solution architect described as "Vertical Analysis Workshops" (see Figure 3 below). These workshops involved business analysts, managers and supervisors focusing on the value chain domains of inbound logistics, operations, outbound logistics, marketing and sales, and servicing. Then, in what he described as "Horizontal Analysis Workshops" (see Figure 3 below), the solution architect requested workshop participants to specify business process improvements.

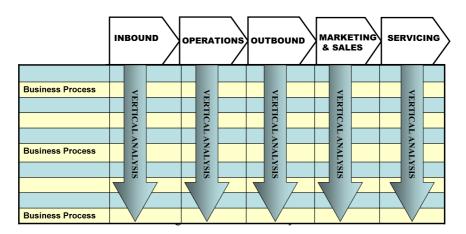
There were a series of six "Vertical Analysis Workshops" that involved participants in looking down the value chain domains in search of general improvements in business performance across a domain (see Figure 3 below). These workshops ensured that participants had an overall sense of the business areas and their objectives and the positions and purposes of business processes within these areas. The positions of particular business processes in the overall domains were examined carefully, so that irrelevant or misdirected processes could be identified and uncovered.

As both the Marketing and Sales and Servicing domains were outside the scope of the business architecture being developed, the workshops were divided up into the following areas:

- Inputs e.g. Member Applications, Payroll Payment Data
- Operations The Superannuation Administration System
- Guides e.g. Business Rules, Legislation, Policies etc.

- Outputs e.g. Delivery of Pension Payments, Statements, Statutory Reports etc.
- Enablers e.g. IT Systems, skilled persons
- Costs Time Driven Activity Based Costing

The atmosphere in the workshops was one of commitment and enthusiasm from all those present.



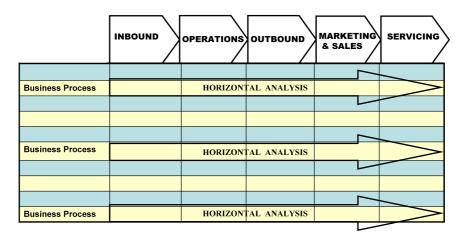


Figure 3: Horizontal Analysis

Following the "Vertical Analysis Workshops" a series of 11 "Horizontal Analysis Workshops", working across business activities end-to-end, examined the efficiency and effectiveness of the various business processes (see Figure 3 above). The Horizontal Analysis Workshops also determined how the initiatives provided in the Vertical Analysis workshops could directly address many of the experienced problems in each individual process area. The analysis was extensive and involved investigating a total of 42 high level processes, which following consolidation was reduced to 38 (see Table 1 below).

Following the investigation of the processes and the determination of the potential improvements, IPOC (Input, Process, Output, Customer) tables were used to define and specify the extent and nature of the proposed improvement (see Figure 4 below). IPOC tables, as used by SuperCo business analysts, were a variation on the Six Sigma 'SIPOC' which is prefaced with 'S' for supplier. A key feature of the variation was the addition of critical success factors to represent the required performance output of each high-level process. The IPOC table was the basis of all activity based information including business performance, information systems, roles and responsibilities. Specifically the IPOC tables included the following key measures:

- Time How long the process should take from a Customer Perspective;
- Cost How much the process should cost measured using TDABC (Time Driven Activity Based Costing);
- Quality A statement clearly describing the (fit for) purpose of the activity;

- Risk The protected acceptable residual risk involved due to effective control within the proposed design;
- Compliance- The specific interpreted requirements placed on the activity by interpreting the obligations
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Table 1: SuperCo's High Level Processes with Potential for Outsourcing

The Design Stage

The purpose of the Design Stage was to take the output of the Analysis Stage and redesign the various processes to give the conceptual target state or To-Be business architecture. This architecture, consisting of To-Be process models, incorporated as much as was possible of the suggested improvements defined in the Analysis Stage. The projected improvement from the newly designed business process models was a reduction in costs of approximately 20% and a significant improvement in customer service. The proposed improvements to each area were recorded in IPOC tables as shown in Figure 4 below. The IPOC tables were used to guide the design of the high level process diagrams using ARIS business architecture system to depict the end-to-end process, including links to associated support documents. An example of a high level process diagram for processing cash withdrawals is shown in Figure 5 below.

The conceptual target architecture processes were used by SuperCo's Solution Architect to consult with stakeholders and gain their support for the proposed improvements going forward. This process included a sensitive discussion relating to the processes that would remain in-house and those that would be completed by

the outsource service provider. In the final analysis, the determination involved considering the outsourcing of "back-office" administration processes as mandatory, while considering those superannuation administration processes that involved customer-facing activities as optional candidates for outsourcing. Such customer-facing processes were to become candidates for outsourcing depending on the results of a cost-benefit analysis incorporating risk.

Process Group	2.1	** HIGH LEVEL D	OMAIN!**								
	2.1.3		ocess Area within the								
Process Description		**Description of the High Level Process**									
											Residual Risk
Process Design Owner		**The senior role responsible for protecting the design of th			nis high level pro	cess**					
Process Action Owner		**The supervisor responsible for actioning this high level pr		ocess**						®	
REF:	PROCESS DETAILS			ENABLERS			CRITICAL SUCCESS FACTORS				
	Inputs	Activity	Outputs	Business Rules	Systems	Role	Time	Cost	Quality	Risk	Compliance
The Business	The title of the	***Activity Title**	The resulting output	The official	Systems that	The particular	The time the	The cost of	The quality	The	The plain
Architecture	preceeeding activity		that is delivered by	business rule/s	enable this	role/s that	activity is	this activity	statement that	satisfactory risk	english
Reference	that feeds this activity		this activity	that control this	activty to	undertakes this	expected to	measured in	describes the fit	management	obligation on
	·		· ·	activity	happen	activity	take to directly	Time Driven	for purpose of the	status resulting	this process
				, , , , , , , , , , , , , , , , , , ,		,	or inderectly				translated from
							meet customer	Based	l '	maintained in	and related to
							expectations	Costing		features of this	the specific
								Analysis			requirement of
								,			meeting all
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Figure 4: IPOC Table Including Critical Success Factors

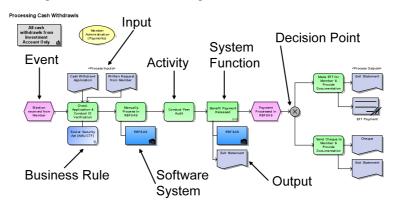


Figure 5: Example High Level Process Diagram - using ARIS Business Architecture Software

Request for Proposal – Outsourcing Services

Following a series of consultation workshops, the agreed target state business architecture was presented in the SuperCo Request for Proposal (RFP) for Outsourcing Services. In this document, potential suppliers were requested to evidence their commitment to providing services that could over time 'meet' or 'better' the To-Be business architecture consisting of the 38 process models involving process improvements together with their performance specifications.

In the RFP, outsourcing service providers were required to complete a table in which they would respond regarding how long it would take them after being awarded the contract to 'meet' or 'better' the demonstrated target state business architecture. The reasons for including business architecture in the RFP were to provide potential service providers with the following:

- Transparency A clear understanding of the current problems SuperCo had in meeting the customer service critical success factors because of the issues associated with the current SuperCo superannuation administration system and the inefficient processes that had built up around the platform
- Knowledge A high level view of the business processes and activities that made up the administration
 area
- Direction A well specified depiction of the desired target state business architecture together with the critical success factors that represent the performance levels that SuperCo required them to meet in respect of the associated business processes.
- Vision A description of the potential general improvements as seen through the eyes of managers and staff in the form of target state architecture.

The next step was to shortlist acceptable outsourcing providers from among those replying to the RFP. This resulted in a set of shortlisted providers that offered to meet or better every feature of the SuperCo To-Be or target state business architecture. Indeed all suppliers agreed to adopt all of the suggested improvement initiatives and meet the specified critical success factor measures of performance.

SuperCo then proceeded to evaluate the outsourcing vendors' offers. Following the completion of the evaluation stage and decision to proceed, the idea was that the chosen outsourcing provider was to develop the target state architecture from being a conceptual set of business processes to an actual operational reality. Although in this exercise, efficiency was of paramount importance to SuperCo, the outsourcing provider had to meet the critical success factor measures specified in each process model. Thus the SuperCo outsourcing initiative moved beyond the historic focus on cost in BPO exercises.

Service Level Agreements covering the contents of the target state business architecture were developed and scheduled into the contract for controlling the delivery of the improvements against the stated critical success factors. Negotiations with the chosen outsourcing vendor are currently continuing. Meanwhile, SuperCo has moved on to address other strategic challenges and issues through business architecture developments including the structuring and management of change, the design of compliance assurance across business processes, the outsourcing of insurance administration, and the design of a new best practice strategic planning process and framework.

Conclusion

The case study in this paper has demonstrated the usefulness of developing a business architecture to enable an effective outsourcing of a core set of business processes. The case also demonstrated how such an approach can enable a sophisticated approach to BPO in which both client and provider can enter a well specified and clearly understood joint service improvement agenda, which moves beyond the inadequate traditional approach based simply on cost savings.

In particular, analysis of the case study indicates how a wider and more fundamental understanding of the business performance challenges faced was achieved at SuperCo through the provision of the Vertical and Horizontal Analysis Workshops. This investment in determining the As-Is Architecture provided a visible motivation for creating the necessary target state or To-Be business architecture. Further, the investment of valuable time given by SuperCo's business and IT managers across the organisation in open discussion-based analysis workshops provided greater ownership of the architecture development process, thus leading to a better quality target state architecture. Overall, this work allowed SuperCo to determine and carefully specify the potential improvement, and to knowingly engage the outsourcing or business service provider in the attainment of a well specified and much improved level of business performance, rather than simply to hand over the opportunity to improve processes to the outsourcing provider. Ultimately, the response from the outsourcing providers in reviewing and committing to meet or better SuperCo's target state architecture was well-informed and based on a clear and detailed understanding of well-specified client requirements. This proactive and participative approach adopted by SuperCo is supported by Feeny et al (2003).

The outsourcing of high value business processes clearly requires serious preparation. The experience reported in the case study indicated that it would be unwise, commercially speaking, not to determine the potential for improvement prior to outsourcing a set of business processes or services. Moreover, to go one step further and design that improvement in a clear and subsequently agreed architecture creates an excellent foundation for an outsourcing partnership in what is, in effect, an extended enterprise.

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