Service Provision and the Net: Risky Application Sourcing?

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Summary:

Application service provision (ASP) is the hosting of multiple applications on centrally located data-centers that are accessible on demand via the Internet and other networks. ASP presents customers with the sourcing option of 'pay-as-you-use'/ renting their core applications from a third party provider. Using the maturing Internet infrastructure to deliver applications and related services was in many ways a predictable technological service development, yet by mid-2001 the momentum with which firms were entering into such dependencies had slowed, not least because of the potential risks inherent in not only an immature market but also in all external IT sourcing. This paper presents a case study illustrating both supplier and customer experiences of implementing such an arrangement. It points to the inherent risks encountered, how ASP can potentially go wrong, and the risk mitigation steps that can be applied. The paper argues that those considering the ASP option at this stage of the industry's development, can usefully apply experiences of more general IT outsourcing, if risks inherent in ASP sourcing are to be identified, reduced and managed.

Keywords: Application Service Provision (ASP), Risk Management, IT outsourcing.

1   Introduction

Application service providers (ASP) are the harbingers of what has been called the fourth wave[1] of information technology (IT) outsourcing. They define the basis for what can also be termed "electronic sourcing" or "net-sourcing". These service firms provide access to centrally managed applications on a rentable or 'pay-as-you-use' basis, that are delivered in an 'one-to-many' arrangement to users from a shared data-centre over the Internet (or other networks). Customers, i.e users then access their services from their desktop via an Internet browser (Kern, et al 2001a). The basic ASP model has been looming on the information and communication technology (ICT) horizon from 1999, and it encapsulates the paradigm shift that was becoming increasingly evident in the way organisations adopted and integrated the Internet (Francalanci, et al. 2001), and relied more heavily on outsourcing services to compensate for lacking capabilities and skill-sets. The underlying technology drivers for this shift was, and are, the rapid maturing of the internet as a reliable and secure network infrastructure, the acceptance of browsers as an application interface, the increasing adoption of server-based computing (network computers and thin-client server systems) and the explosive demand in electronic commerce and supply chain management (e.g. enterprise resource planning) applications and solutions.

It can be argued that the ASP concept has been around for some time, in the form of time sharing, bureau and application outsourcing services. Indeed, in many ways there are similarities in the underlying business model, the difference being that the ASP model transfers these practices to the Internet, and can, for example, provide access to a user and demand driven pricing model. It also can offer an integrated portfolio of complex applications for the complete virtual value chain for which an enterprise may not have the expertise nor resources. Thus ASPs present themselves as offering greater flexibility and scalability than the time-sharing and bureau services model through use of such developments as the Internet, higher capacity telecom links, modern computing options, and low cost server technology.

With more than an estimated 2000 firms fitting the ASP definition in early 2001, and a predicted market size of approximately \$11.3bn in 2003 (ASPIC, 2001; Forrester, 1999)[2,] this service defines for many interested parties an attractive new sourcing option. At present, the ASP market in fact consists of a diverse range of established and new start-up service firms, including internet service providers

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[1]   High computing power costs defined the first wave of the 60s and 70s bureau service and time sharing services. The development of PCs in the 80s saw a widespread insourcing response and the 90s saw the third wave of outsourcing driven by skill needs, economies of scale and cost efficiency pressures (Kern, Lacity and Willcocks 2001).

[2]   Forrester Research (1997) "Packaged Apps Outsourcing", January, Cambridge MA, USA

(ISPs), telecommunication and network infrastructure providers (Telcos), independent software vendors (ISVs), online software companies, system integrators and outsourcing service vendors. Together they offer access to an immense array of applications from email, word processing spreadsheet applications to complex enterprise resource planning and supply chain solutions. Currently most media attention focuses on fast growing US and European ASP start-ups such as Corio, Futurelink, and USinternetworking, although the market is seeing in its early development phase a consolidation and aggregation shift as ASP startups form alliances, and large outsourcing providers, such as Perot Systems, EDS and CSC buy, or invest in, existing ASPs and formalize their ASP strategy. Together these firms will then be able to offer those kind of resource capabilities, expertise, technology and geographical presence that may make the ASP business model a more attractive solution and option for the global fortune 1000 businesses. One should also be aware that the ASP concept, throughout 2001, was also being continually expanded in terms of its scope, with many ASPs seeking to redefine themselves as for example Vertical Service Providers (VSPs), Business or Managed Service Providers (BSPs or MSPs). In terms of risk, this may reflect the need for ASPs to further expand and differentiate themselves in the services and products offered in order to establish viable businesses.

2   IT Outsourcing Risks Revisited

The market drivers underpinning the ASP option have, in many ways, strong similarities to those arising in the IT outsourcing bandwagon in the 1990s (see Lacity and Hirschheim, 1993a). ASPs, for example, have grown rapidly since 1999 with a renewed focus on core competence and outsourcing presaged by organizations perceiving a rapid need to come to terms with the Internet and its business and development implications; a large shortage of fundamental IT/application skills; and a lack of available funds to access applications and innovations. In particular, smaller and medium-sized firms (SMEs) have found that ASPs offer access to solutions they could not otherwise resource, for example ERP applications. ASPs also offer the promise of economies of scale and superior technical skills not otherwise available to such firms. Most importantly, as with IT outsourcing, there is the potential to decrease the overall total cost of IT ownership, and access innovations and value added services at lower costs. Such arguments regularly touted by suppliers have been persuasive to numerous start-ups, SMEs and a select, but growing, group of large firms.

In many ways, not just what drove the outsourcing bandwagon in the early 1990s (Lacity and Hirschheim, 1993b; Willcocks and Fitzgerald, 1994), but also the concomitant risks, are re-occurring with ASPs. Subsequent case study work and surveys of IT outsourcing have continuously revealed that suppliers' sales offers

frequently did not meet expectations, while operationalisation revealed unexpected risks and managerial problems tainting customers experiences (see for example Cullen, Seddon et al., 2001; Lacity and Willcocks, 2000, 2001; Kern and Willcocks, 2001). Once again, then, the espoused customer service offering needs to checked against the reality of actual experiences, in order to isolate perennial and distinctive outsourcing risks from using the rapidly developing ASP marketplace. Given the large number of customers currently evaluating the potential of an ASP solution, it seems essential to explore, in addition to the regular advantages touted by ASPs, what the risks may be, and how far these might be temporary features of an immature marketplace, or more permanent features of the model. Our guiding research question in this is: "What risks arise when using an ASP solution, and how can these be mitigated?"

The research methodology for pursuing this question is presented in the Appendix. The paper is structured as follows. In the first part a detailed case description is presented of an ASP startup, and a customer's experience of selecting, contracting and operationalising an ASP solution. The second part explores the case in terms of the inherent risk factors, and analyses these against an analytical framework derived from previous research studies of IT outsourcing risk. The paper then draws out a preliminary ASP risk mitigation and management agenda from a client perspective.

3   ASP in Practice: Siennax.com and Abz Insurance Facilitator

3.1   Background

Founded by five former BSO Origin employees, Siennax started out its life in 1998 as a consulting company headquartered in the Netherlands. Its early objectives were to provide IT consulting services and application solutions on the bases of IT outsourcing to small and medium-sized firms. The idea was to offer application solutions from a centrally managed environment, giving customers access to solutions via a virtual private network and/or Internet. The initial product to be offered was its proprietary solution suite called SX Intranet Suite, comprising email, scheduling, calendars and document libraries. Together with its hosting partner KPN Dutch Telecom, this defined the first applications to be leased to customers. In late 1998 Siennax became aware of the Application Service Provision model that was receiving a high media profile in the United States:

"Just then we read in magazines and reports like Durlacher that what we were doing had a name: Application Service Provision." – Michiel Steltman, CTO Siennax.

As a result, in early 1999 Siennax refocused its business towards being an ASP solution provider, and in the Benelux countries became one of the first pure-play ASP start-ups. Sponsored by venture capitalists, the company reported a 243% revenue growth to €2 million in one year in 1999, which saw Siennax rising to be one of the leading European ASPs (Table 1).

Table 1 - Siennax 1998 and 1999 Financial Figures (Source: Siennax 1999 annual report).

	1998		1999	
	X 1000 NLG	X 1000 €	x 1000 NLG	x 1000 €
Revenue	1,324.2	600.9	4,545.4	2,062.6
Profit	- 93.1	- 42.2	- 1,046.9	- 475.1

Growth since 1999 continued at a rapid pace, seeing Siennax acquire numerous new customers, and increasing its end-user base to approximately 15,000 by early 2001. With the general downturn of the technology markets by that date, Siennax still remained on target for a positive cash flow in one-and-a-half years and further expected to become profitable within one year. By second quarter of 2001, Siennax employed about 100 people with two main operating markets, namely Benelux and Germany.

3.2 Siennax's Pure-Play ASP Strategy

As Michiel Steltman, the CTO from Siennax, explained, as at early 2001 the company delivered generic, standard applications on a one-to-many model with a shared service concept and consulting services. The idea was to 'install it once and deliver it many times'. Through this model, Siennax offered a set of web-based business applications, connectivity services and implementation and migration services to customers ranging from small to large enterprises. The application solutions included an Intranet suite, Microsoft Exchange 2000, Lotus Learning Space, electronic document management, and customer relationship management. Prices for these application services were calculated on a per-user/per-month pricing model, ranging from 70 NLG (approx. $30) for an intranet seat to about 200 NLG (approx. $87) for an e-Learning seat (early 2001 prices).

However, Siennax did not at this date provide so called 'mission critical' applications, for example enterprise resource planning systems. Siennax management did not believe that their customers were ready to source such applications from an ASP model. Siennax instead had long-term plans to focus

services and efforts on broadening its applications solutions, by extending existing services on the above application portfolio. In addition, Siennax expanded its portfolio to offer complex (web) hosting solutions, which function like a middleware platform upon which customers can base their own application services. This then enabled clients to act as an ASP for themselves.

3.3   Abz Insurance Facilitator – ASP Customer Scenario

As at March 2001, Abz was Siennax's largest customer in contract value and potential opportunities. As a customer, Abz can be best characterised as a vertical service supplier of information and application solutions to the insurance industry. Corné Paalvast, the Operational Director for Abz explained that:

"the company basically started 16 years ago as a branch initiative in the area of car claims handling. The insurance industry saw that working together to get the process organised and supported by IT was much better handled by all insurers together. So Abz was the result and today that means that every damaged car that is being handled by an insurance company in Holland is handled over our IT systems. We provide applications to calculate the damage, to process the damage, to record the damage with photos, etc. So everybody involved in processing the damage is connected to our system - insurance companies, body repair shops, expertise companies, spare parts companies, etc".

Abz's primary objective, in turn, was to ensure that business processes between insurance firms and insurance takers and providers ran efficiently and effectively. For this Abz's organisational capacity, its combination of knowledge of the sector and technology and its group of strategic partners have enabled it to provide a reliable and standardised information, communication and transaction-based (ICT) service. This has allowed Abz to grow to a sizeable 66.8 million Dutch Guilders (approx. $30m) in revenues. By 2001 the company provided its ICT services to over 3,000 companies, serving more than 6,000 end-users.

In the beginning Abz was owned by a small number of insurance firms, but this has grown over the years to 53 companies spanning the complete insurance value chain, e.g. Achmea, Aegon, Amev and ING Verzekeringen. By 2001 all shareholders were also Abz's key customers.

Since Abz provided its customers with access to centrally managed systems on a one-to-many basis, using subscription based and transaction based pricing models, the company could also be classified as a service provider similar to an ASP. The key difference was that the centrally managed systems were not run and managed by Abz, but were sourced from external providers, such as Siennax. Abz in turn, rented access to a complex or advanced hosting environment through which it provided services to its key customers. As described above, this middleware type hosting platform, allowed Abz's customers not only to access essential

applications, but also to host their own solutions which they could then make available to their customers:

"They [Abz] deliver services to the insurance market and we [Siennax] deliver them ASP services to enable them to be a branch organisation for the insurance market…In fact, in the vertical group, we [Siennax] are an ASP enabler. We allow companies to become an ASP to their market by selling them the necessary core services" (Michiel Steltman, CTO Siennax)

This service, including the necessary digital signature service that verifies Abz's customers identity, was the initial service for which Siennax was contracted. However, over time, Siennax was also chosen to supply Abz with all of its intranet and extranet services and business e-mail services via a thin-client outsourcing arrangement. As at March 2001, the current and expected data traffic was handled via a T1 leased line, which was part of the overall package. It gave end-user clients access to Abz's service via the Internet. The data storage and processing part of solution was handled by Siennax' systems, which were hosted by KPN's cyber-centre in Amsterdam. However, at the time of the research most of Abz's systems were still run by Getronics IT services. Interestingly though, one of the possible future scenarios discussed in the former context was that ASP services may replace all of Abz's traditional outsourcing arrangements for these services.

3.4   The ASP Decision

The actual decision to go for an ASP solution evolved in light of a number of changes and long-term objectives, as Corné Paalvast, the Operational Director from Abz explained:

"we have an outsourcing arrangement with Getronics now for about 6 years. They provided us with most of our IT services for marketing and selling our services to the insurance industry. Their services covered our complete intranet and extranet environment, which included our transaction services. Yet for our current and long-term development we were looking for an IT partner, rather than a commodity type service supplier like Getronics. We sought an IT partner that could help us define new products, services, and generally would be more proactive in its interactions with our customers. Yet all discussions concerning technological opportunities with our existing suppliers lead to the same response: 'tell us what you need and we will provide you with it.' However, we were looking for a partner who could tell us what was available and help us identify new opportunities."

The underlying argument for the decision was that IT was not core to Abz's business. Moreover, as they had been in an outsourcing contract, over the years they never found it necessary to develop the competencies to handle their own IT

infrastructure. Instead they looked towards their IT suppliers to keep them abreast of innovations and possible opportunities on the back of new IT developments. As a result, in November 1999, when the contract with Getronics was nearing its end, Abz began exploring the market for new solutions, and, more importantly, an IT supplier. At the time the ASP business model was being widely discussed and covered by media, and Abz found it to be a good fit with their requirement. In fact, what they had envisaged was a solution that would give them flexibility, a means to keep on top of innovations and give access to benefits from new and ongoing application developments. By February 2000 the company had internally decided to opt for an ASP-driven solution. In the words of the decision maker:

"Back then we did not know much about ASPs. Yet we were convinced that this was a way to help us innovate and develop new services faster than we could think of at the time. The in-depth discussions and negotiations with Graddelt [ASP competitor] and Siennax confirmed this assumption. Yet when we scanned the market, everybody seemed to be claiming they were an ASP – even our existing service provider Getronics. But most of them did not provide the kind of service we sought, the scalability and the necessary 'Internet hotel' - the environment where we could run our own business applications from, and the infrastructure to plug in our own business applications" (Corné Paalvast, Operational Director, Abz).

3.5   Selecting an Application Service Provider

Abz was also looking for a new type of service infrastructure, that would allow them to integrate additional functionality with their existing business logic to offer services such as web-enabled address systems, news systems, mail systems, and application services. The objective here was to increase customer loyalty by offering greater functionality. A further objective was to use Siennax's application services such as the intranet suite or MS office applications as an additional sales channel to its customers. This was in line with Abz's goal of identifying new opportunities and sales channels. The final long term objective was to sell Abz's expertise in a repackaged form through an ASP, to the ASP's other customers. As Corné Paalvast elaborated that could imply that :

 "… sometimes they resell our products or they take over a service and sell it back to us and to their customers. For example, Siennax could take over our news services and make it into a commodity product and then sell it back to Abz."

Two additional strategic factors played a role in Abz's selection. One was that the larger IT service firms Abz evaluated, i.e. CMG and Getronics, were perceived as a strategic sourcing risk since they could become a potential competitor. The argument being that these firms could easily copy Abz's services and activities and then offer them in the same market either directly or indirectly through partnerships. Within alliance theory this has been referred to as a '*spillover effect*'.

With ASP start-ups, like Graddelt (now called marviQ) and Siennax, their resource base is relatively small and thus they are unlikely to go down that track - a minor risk. The second factor was the dependency relationship that may evolve due to size differences. Abz wanted a partnership with a company that was smaller in size, had potentially less customers, and not as well known in the industry. The intention here was to keep focus and attention on their needs, and maintain a balanced relationship that is slightly in their favour. Underlying this was Abz's experience, which had shown that such partnerships led to faster response times, improved communication and decreased hierarchical interface levels.

The final choice of an ASP boiled down to marviQ or Siennax. The driving selection criteria were the above objectives, and whether the ASP could deliver them. Important criteria considered were threefold: the track record of the ASP, the track records of the persons involved, and the degree of trust the persons evoked:

"We chose Siennax because of proven results, that was one of the selection criteria. But most important, the ASP market being an immature market you need to have trust in people and individual relationships. That was one of the most important triggers for choosing Siennax." (Corné Paalvast, Operational Director Abz).

3.6. Transitioning to Application Service

In March 2000, Abz and Siennax signed an agreement of intent. Following a due diligence process, a contract and service level agreement (SLA) was formalised and signed in August 2000. It detailed escalation procedures, responsible managers, uptime guarantees, reaction times, reaction procedures and change request procedures. At this point, Siennax and Abz had already established a project team responsible for transitioning the services and then managing the operations of the deal. On a higher level, a steering group was formed of executives from both Abz and Siennax, responsible for monitoring the contract, the service performance, resolving escalated problems, and identifying new business opportunities.

It was decided early on to transition incrementally the legacy services from Getronics to the Siennax platform. The migration began with relatively easy parts, such as the html front-end applications and was then expanded incrementally to cover the whole Abz extranet. Abz's desired an incremental approach because it gave them the possibility to always retract if problems became serious, and re-contract with easily identifiable alternative suppliers or, if necessary, even go back with Getronics. Although complex in nature, the transition was rolled out as planned:

"We started to discuss the transition of their extranet from their servers to our own environment. This transition was something that had never been done before. So it was something new to both organisations. To my advantage I had, and we formed…. a very good working project team. This cooperation really helped in migrating the services smoothly. Yet there was one exception, which was the implementation of the Verisign certification. On that we were facing a number of problems " (Pieter Bokelaar, Abz Account Manager at Siennax.)

The inherent problem was that Abz also acts as a Trusted Third Party agent to its customers, providing them with a crucial digital signature/passport functionality. In the old Getronics scenario, Abz was delivering this service conjointly on the basis of a Netscape Certificate Server. However, they had decided to externally source and update this, in their view a commodity service. Abz was now looking for a Verisign Certification service – the industry acknowledged market standard. Having done a market sweep, Abz identified Roccade (a large European IT service firm) as a potential provider for this service, which Siennax now only needed to subcontract and integrate into Abz's existing service package:

"we wanted Verisign, which in Holland is re-sold primarily through Roccade. They [Siennax] however could not really live with Roccade because of the competition worries. So Siennax decided to go into business with somebody else which I hadn't heard of before - called BlueX. They said they could arrange the Verisign service before the first of October and it took them till the 22nd of December to do so. Which put us, as a Trusted Third Party, out of Business for seven weeks. During this time I don't think we lost any customers, but we have had to pay back money for services not available and we have had to say sorry for a lot of things. But the image loss is probably the worst thing about it" (Corné Paalvast, Operational Director Abz).

Of course the difficulties were in part already planned for as the migration of such a complex service solution was not only a novelty for Siennax and BlueX, but also ABZ. Some of the problems were apportioned to BlueX - a young start-up firm in the Netherlands with little experience in implementing Digital Signature services in an ASP model:

"What we were confronted with was that BlueX did the job for the first time too. In the very complex migration we already had, this [the migration to the Verisign Certificate] was an extra complexity, which cost a lot of time. The Verisign Certificates were delivered just before Christmas (2000). So its running now (February 2001), it's running OK, but it was far too late." (Pieter Bokelaar, Abz Account Manager at Siennax).

The difficulties with the migration of this service point to an essential issue of how services and performances measured are in such ventures. As both parties from the start had formalised an SLA, it was now a matter of enforcing this agreement. Measurement of Siennax's performance was, however, not so much done to the letter of the technical measures, but handled more on the feedback from the

operational level. Of course all technical failures and problems were reported, and the technical performance was within service level parameters, but most important has been the perceived performance by the internal end-users and its customers. Here performance measures focused on how problems were being addressed, whether charges were raised for minor issues, whether logs of problems were kept and whether they could have been planned for and hence prevented. After Abz's experience with the migration, they were subsequently waiting for Siennax's proposal on how to resolve amicably an imbalance involving a seven week revenue loss and loss of customer confidence in Abz.

Although there were financial penalty arrangements specified in the contract, it was in neither party's interest at this stage to enforce them, not least because both wished to perpetuating the relationship. The operational director emphasised that:

"financially we have made agreements in the contract. There is a penalty in the contract, which covers damage. But I say to the ASP - keep the money and help me re-establish my image, because that is much more important".

3.7. Long-term Expectations and Challenges

In light of Abz's experience to March 2001, the next phase would be even more complex, as the overall transactional services involving various applications were to be transitioned to Siennax's hosting environment. Abz will be looking to Siennax for real value-added. Expectations included identifying new IT opportunities, faster time to market for new services by using Siennax's economies of scale and expertise, and new products and services for customers that directly result from improved IT functionality. These long-term expectations were summed-up by Abz's Operational Director as:

"what is do-able, what services are supported by the different options, can we change our sales and offer proposition for our customer, for example by introducing online marketplaces? All this considering that we in the moment only provide the customer with a transaction interface. […] We want improved time to market for new products. With the old systems it took us six months. […] By using new technology, for example XML customers can then do their own product introduction online. So we are planning to change the proposition and to make the old transaction services much more rich with added functionality."

4 Risk Analysis in Outsourcing – A Framework

It is clear from the case that ASP sourcing remains a risky business. Following Charette (1991) and Willcocks and Margetts (1994), risk is here taken to be a negative outcome that has a known or estimated probability of occurrence based

on experience or some theory, especially when looking towards outsourcing. In practice, the authors' detailed review of the last decade finds that there are all too few systematic academic studies of types of IT outsourcing risks, their salience and their mitigation. The main studies have been Earl (1996) and Klepper and Jones (1998), both of which are somewhat anecdotal in character; Ang and Toh (1998) with a detailed case history of a failed software development project, and derived guidelines; Jurison (1995) who provided a theoretical risk-return analytical model for making IT outsourcing decisions; Willcocks and Lacity (1999) who investigated risk mitigation tactics in a single case history; and Lacity and Willcocks (1998), who derived risk reduction guidelines from studying forty organizations and their IT sourcing practices. Outside these, there are many other studies that deal with IT outsourcing but do not choose to focus on providing a comprehensive analysis of salient risks and/or risk mitigation approaches (for example Ang and Straub, 1998, De Loof, 1998; McLellan et al., 1998) .

Although there is a limited literature on which to draw for the identification of salient risks, an exploratory analytical framework has been distilled from case study and survey work by Lacity and Willcocks (2000, 2001), and Kern and Willcocks (2001). Drawing on this work, the main reasons for failure/negative outcomes in IT outsourcing deals have been various combinations of the factors shown in Figure 1 (see also Ang and Straub, 1998; Ang and Toh, 1998; Auwers and Deschoolmeester, 1993; Currie and Willcocks, 1998; DiRomualdo and Gurbaxani, 1998; Kern, 1999; Klepper and Jones, 1998; Kumar and Willcocks, 1999).

Apart from being built on prior research findings, an earlier version of the framework was also productively utilised and further developed for present use in earlier case work (Willcocks and Lacity, 1999; Willcocks, Lacity and Kern, (1999). A finding there in applying the framework was that it provided sufficient generic coverage of salient risks to allow complementary detail to be explored in an insightful, qualitative manner.

The framework shows that IT outsourcing studies have consistently found risks materialising in three areas. The first is classified in Figure 1 as 'context'. Here the client's distinctive competitive context can determine which IT is likely to be core and differentiating, what speed of systems development, and levels of service, are required. Strategic intent can determine its objectives for outsourcing – should it go for cost reduction, and/or allow the in-house team to refocus on higher value development work, or hire a supplier to achieve global standardization in certain aspects of IT. It is also important to be very clear as to the strategies the prospective suppliers are pursuing in the market-place and the ramifications of those for the client company over the life-time of the contract. The supplier's core capabilities also need very careful analysis. The second area is 'building to contract'. Figure 1 delineates seven major practices that regularly materialise in negative outcomes. The framework actually puts a great deal of

weight on risk factors that occur before the contract is operationalised. However, the third area grouping defines five major risk factors as 'post-contract issues'.
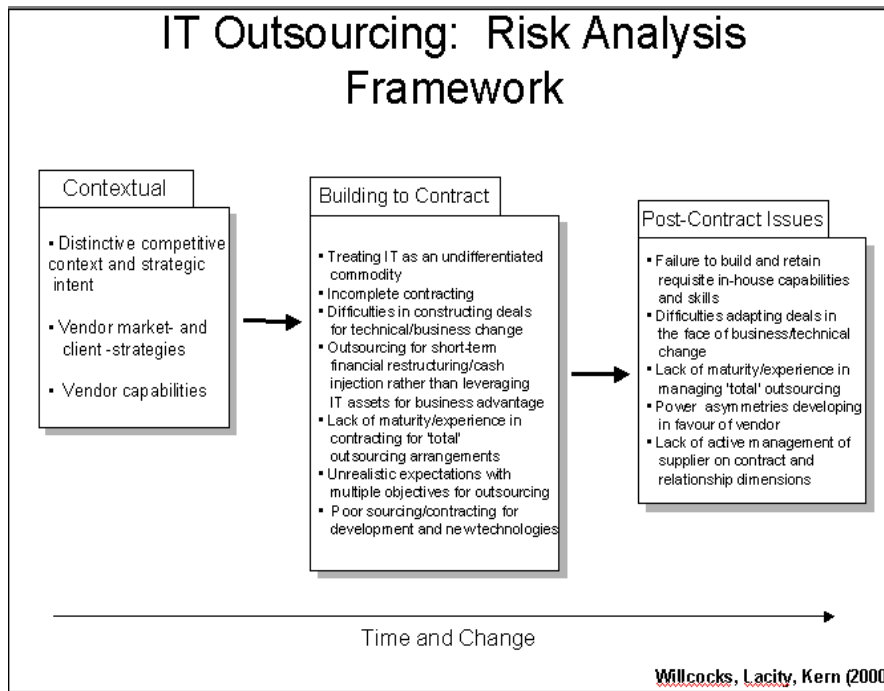
Figure 1 – Risk Analysis Framework for IT Outsourcing

An inherent weakness of the framework is the lack of any qualifying measures that could be used for the degree of the risk encountered within outsourcing contexts. As noted by Jurison (1995) it is common practice during the risk evaluation period to rate risks on a simple scale of low, medium and high. A further limitation is that it mainly sees risk from a client, and not a supplier perspective, though risk can be most usefully studied from multiple perspectives. Another weakness of the framework is its generalizability - the degree of applicability to most or all outsourcing ventures. Due to the insuffcient set of samples used to date, little can be said about its overarching applicability to IT outsourcing. As such, Figure 1 retains its status as an exploratory framework, with application service provision presenting yet another opportunity to investigate how the risk profiling it represents can be developed further. We will seek to extend the framework by using qualitative measure of low, medium and high to indicate the risks experienced by Abz.

5   Case Analysis - Risks and Issues in Siennax-Abz

Our analysis of the risks in the case draws initially on the Figure 1 risk profiling tool. The results are summarised in Table 2, where we have extended the analysis by qualitatively rating each of the risks that arose for Abz. The point of departure for the analysis was the customer's perspective.

Table 2 – Case Analysis Using The Risk Framework

Stage	Risk issue	*Analysis*	Risk
Contextual	Distinctive competitive context and strategic intent	The ***distinct competitive context*** Abz was faced with was that it did not have the in-house competencies to operate its own IT services, as IT did not define its core business. It therefore needed a strategic IT partner who facilitated its business and identified additional technological innovations it could offer to customers. IT outsourcing, be it with a traditional IT service provider or an ASP, was identified as a necessity to compete. Not to outsource posed a high risk strategy, with considerable costs to develop the required IT competencies. Its ***strategic intent*** was in turn not only about accessing innovation, but also about wanting to transfer its outsourcing services to a strategic IT partner that could be more proactive than its existing provider Getronics with identifying technological advances and benefits. The goal was one of accessing and harnessing these technological opportunities touted, to generate growth and differentiate services through new and additional IT services that others could then not duplicate so easily	**High** **Med.**
	Vendor market- and client- strategies	Siennax, being a start-up desperate to procure business, jumped at the opportunity to offer its services. Its market strategy is one of customer numbers to generate size, growth and turnover. Aggressive in its approach, the danger is one of over-promising on solutions, capabilities, and competencies, while in parallel not having a lengthy track record of experiences, customers and success stories. Siennax, in turn, may have been a high risk option. Still, Abz was aware of this potential danger and decided early on to mitigate these risks, by sourcing incrementally a function that it could easily insource, procure in the market in the short-term, or even outsource with another provider. In addition, Abz undertook some of the work to identifying necessary IT services providers that Siennax needed to subcontract to offer, for example, the required digital signature service.	**Med.**

Stage	Risk	*Analysis*	Risk
	Vendor capabilities	business of outsourcing existing customer applications, technology and whole functions and then providing a IT service in return. Moreover, the situation was further complicated by the fact that they had to take over outsourced services from an existing IT service provider, i.e. competitor, revamp these by adding additional and new functionality, and then host the service on their own servers. Siennax in turn had some of the technical and application capabilities, but did not have the experience with outsourcing services in general, and more specifically with implementing digital signature solutions.	
Building to contract	Treating IT as an	Clearly, IT to Abz is far more than a commodity, as its revenue streams and hence whole business offering is dependent on the underlying IT services. Being thus prevented and hindered in offering to existing customers services that previously they had expected as a given, for example the digital signature service, not only curtails revenues but also causes customer and end-user dissatisfaction potentially leading to customer loss.	**High**
	Incomplete contracting	Due to the fact that the service had previously been contracted out to another IT service provider, Abz had significant in-house expertise and experience at defining a comprehensive overarching contract and, more importantly, service levels. However, for many of the services Siennax was contracted to deliver some of the specific detail of the actual services and levels still had to be formalised as they became available to Abz. This was due in part to the long delay in implementing and migrating the digital signature service.	**Med**
	Difficulties in constructing	Abz had in some ways catered for this risk, by planning to implement the sourcing arrangement in an incremental phase, starting with the extranet, then intranet and finally the critical application operations in-house. In this sense the deal allowed for greater flexibility in terms of responding to change, but it seemed that any changes to what had been agreed with Siennax would be at cost, and Siennax was preparing to identify new opportunities for Abz to expand its services. So change, in many ways, was inherent, but the procedures for change did not seem explicit.	**Med.**

Stage	Risk issue	*Analysis*	Risk
	Ousourcing for short-	Abz in this instance was clearly not focusing on financial restructuring or cash injection. The service it needed had already been outsourced with Getronics, so it was re-contracting the service with another supplier. This would see switching costs arise, but also introduce extra costs as it was planning to change its service requirements and procure additional services. In turn, the deal was focused more on leveraging IT assets as a means to access business and customer advantages	**Low**
	Lack of maturity/ experience	Abz did have experience with contracting for outsourcing solutions. However, it was not willing nor planning to use the power of the contract to enforce its service demands. Instead, it was intent on developing the relationship with Siennax, as it planned to take advantage of Siennax's innovativeness and access to new technology solutions that Abz could then resell to its customers. The issue here then is to mitigate risk by knowing when and when not to assert the formal contract, so that the relationship can properly together with the supplier's ability to develop added value.	**Low**
	Unrealistic expectations with	In part we do find some support for arguing that Abz had placed high expectations on Siennax's ability to deliver on its IT service requirements. Yet it seemed clear to both parties that delivering the envisaged service would be something that Siennax had never done before, and thus had no experience with. The expectation remained, though, that Siennax could respond to service demands, roll-out the solution and cover the necessary capabilities to offer the solution. There seems to be some evidence of over promising and over-expectation, considering, for example, the seven week implementation delay.	**Med.**

Stage	Risk issue	*Analysis*	Risk

Stage	Risk issue	*Analysis*	Risk
	Poor sourcing/ contracting for	there was a lot of uncertainty inherent in the contract and the specifics of the deal, which later became an issue as Siennax encountered problems with implementing the key service of digital signatures. In turn, the additional complexity Abz was facing related to how to contract for new and novel service and technology solution. This was a matter of defining close strategic relations to ensure services are eventually operational, but could be at significant costs to Abz. For the long-term this clearly poses a a major risk, as Siennax increases its penetration into Abz's service and identifies new technical opportunities, solutions and benefits.	
Post-contract Issues	**Failure to build and retain requisite in-house**	Abz did not have to build or retain the requisite in-house skill set as it had outsourced most of its IT already to Getronics, so that it merely continued with the existing management structure to handle Siennax. It is likely though that, in the long-term, as the degree of outsourcing and the increase in planned IT services matures with Siennax, additional in-house capabilities will need to be developed to avoid an overly high dependency on Siennax's management. A fundamental risk for Abz lay in handing over too much responsibility for technical architecture and non-routine technical fixing tasks, even though the ASP model suggests this would not be problematic. Against Feeny and Willcocks (1998) recommendations, it was also clear that Abz needed to strengthen its contract monitoring and contract facilitation core capability, together with its ability to elicit and deliver on business requirements.	**Low** (long-term increase to Med.)
	Difficulties adapting	At this point of the deal's development there was insufficient insight to be able to predict the long-term difficulties of adapting to change. The real complexities of the migration were still to come with the larger service portfolio encapsulated in the intranet. Again this would suggest that Abz needs to be careful to build up more of its internal capability in the business, technical and managing external supply fronts.	**N/A**

	Lack of maturity/Experience	ract operates as an outsourcing service provider themselves. To judge from their past and current operations and experiences this poses a small risk. The danger, rather, lies with Siennax, who has had little experience with outsourcing. It may thus require Abz to enforce process, structures and service performance demands on Siennax and also necessitate in the long run a rather more active management involvement in the deal. Considering this potential threat risks may evolve unexpectedly as the service portfolio increases and so with Abz's dependency.	
	Power asymmetries	Abz had purposely chosen a smaller supplier this time around to ensure it can maintain a greater degree of influence and possible power over the supplier. Recall that Abz has significant size and prestige within the insurance industry. To this extent, a bad experience and potential breakdown of relations could have equally adverse affects, but more so for Siennax in terms of being able to deliver services to an established firms like Abz. The long-term development may look different, though, as Siennax increasingly takes hold of services and the dependency IT services increases.	**Low** (long-term increase to Med.)
	Lack of active	Again experience and management interface structures have been put in place, but it is too early to tell whether there are any risks at this point. However, the ability of Abz to manage actively will depend on the extent to which it strengthens its internal capability as described above.	**N/A**

It can be seen that the risk profiling tool continues to provide a highly useful way of analysing risks and classifying rich findings in an IT outsourcing context. However, we found the risk profiling tool requiring a number of amendments and possible additions to make it particularly relevant for application service provision sourcing deals. Firstly, at an overarching level, it seems important to introduce a further phase, that being the migration, implementation and/or transition period. Secondly, we found in the case that during this stage a number of risks became evident. These included: whether the supplier had sufficient skill sets, capabilities, and technical resources; was able to operationalise the service levels; introduced the necessary management processes for interacting with the customer and for reporting back on service and technical performance; established the necessary management infrastructure; and was able to integrate the subcontracted services from third parties into a seamless service for the customer. The rationale for making the transition phase explicit derived from the level of difficulty

experienced by the client firm, traceable back to the level of uncertainty arising from buying services from a relatively immature market-place.

As a result we propose the framework in Figure 2 as a more useful tool for analysing risks in ASP and electronic IT sourcing arrangements. We recognize, of course, that this framework needs more thorough further empirical validation in a larger sample setting.

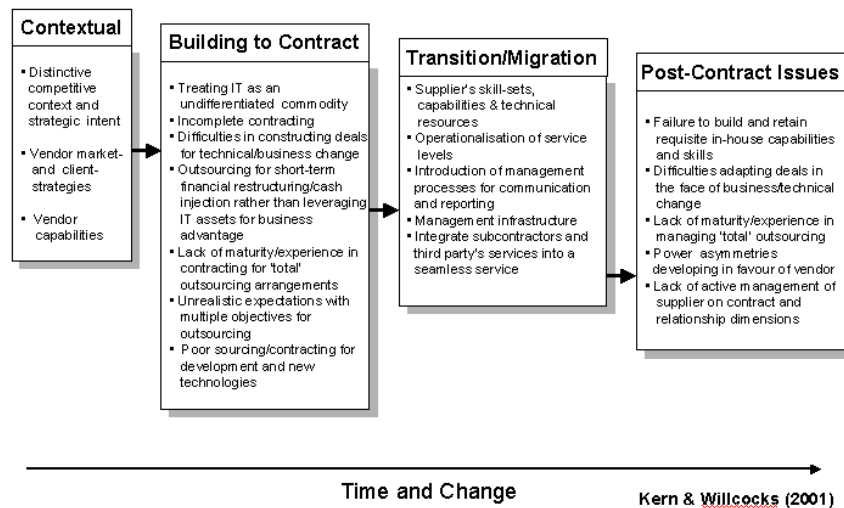## Electronic Sourcing: Risk Analysis Framework

Contextual
- Distinctive competitive context and strategic intent
- Vendor market- and client- strategies
- Vendor capabilities

Building to Contract
- Treating IT as an undifferentiated commodity
- Incomplete contracting
- Difficulties in constructing deals for technical/business change
- Outsourcing for short-term financial restructuring/cash injection rather than leveraging IT assets for business advantage
- Lack of maturity/experience in contracting for 'total' outsourcing arrangements
- Unrealistic expectations with multiple objectives for outsourcing
- Poor sourcing/contracting for development and new technologies

Transition/Migration
- Supplier's skill-sets, capabilities & technical resources
- Operationalisation of service levels
- Introduction of management processes for communication and reporting
- Management infrastructure
- Integrate subcontractors and third party's services into a seamless service

Post-Contract Issues
- Failure to build and retain requisite in-house capabilities and skills
- Difficulties adapting deals in the face of business/technical change
- Lack of maturity/experience in managing 'total' outsourcing
- Power asymmetries developing in favour of vendor
- Lack of active management of supplier on contract and relationship dimensions

Time and Change

Kern & Willcocks (2001)

Figure 2 – Risk Analysis Framework For Electronic Sourcing Deals

6 Conclusion

By 2001 the initial explosion in interest in the ASP model had faltered, not least with the demise of many start-ups. This, of course is a typical pattern in an immature market-place, and precisely why risks need to be analysed carefully.

In fact, something altogether more interesting has been occurring, with the ASP model expanding beyond its boundaries into business or managed service provision, reflecting a service bundle more sophisticated than mere rented applications over the web. Furthermore there have been moves into vertical

service provision, that is trying to offer more services to specific niches, for example the legal and accounting profession, the pharmaceutical industry. In such a fast moving environment risk analysis, again, needs very detailed handling. In this paper we have shown that much learning is still to be had from risks in IT outsourcing more generally, but that there are a number of distinctive risks that arose in the case of Siennax-Abz which suggest that the Figure 2 framework is a more useful one for ASP risk profiling. This framework can be applied against other ASP arrangements in order to see if it can be developed further - precisely the authors' research agenda.

Acknowledgement

Appendix: Research Methodology

Research Approach

We investigated the issue of risks in a distinctive application service provision sourcing context. The deal was signed in 2000 by Siennax, a Dutch dot.com startup, and ABZ the Dutch insurance information technology interface for a number of large insurance companies. The case was chosen because 1) it represents an ASP deal that encountered significant problems during the migration phase; 2) it provides a deal where initial investments and efforts make an early termination costly and most likely inappropriate. Therefore, the ongoing relationship will be maintained and reflects both customer's and supplier's interests, and 3) we could gain substantial access to participants in both the supplier and customer company.

Research Process

In the client side we interviewed the operational director in charge of the deal and the technical manager on the supplier side we interviewed the cofounder and CTO and the Account Manager. The CTO was interviewed two times over a period of 8 months. Interviews varied from 50 minutes to 90 minutes in length and were conducted using a semi-structured questionnaire with many open-ended questions. Questions focused initially on understanding the basis of the service offering, the reasons for sourcing application services, the tendering and evaluation process, the contract and implementation. It soon became clear, though, that the migration difficulties were of particular complexity and presented a number of challenges

for the venture and the relationship. Subsequent questions concentrated on this issue in particular with with the objective of understanding how these would effect the subsequent relationship and venture. Interviews proceeded from an unstructured to a structured format, with a common protocol. The use of a common protocol ensured not only collection of multiple views on the issues at stake, but also verified and validated responses from the various participants.

Data Collection and Data Analysis

Interviews were then transcribed, and the text confirmed with the relevant respondents. We then developed a higher level of abstraction and interpretation by applying the precepts of intentional analysis to the transcripts (Sanders, 1982). Going through numerous iteration cycles of interpretation and understanding (Boland, 1991; Parkhe, 1993), with additional interactions with both the client and supplier managers we were able to develop a comprehensive story. Additionally we sought supporting documentation in order to construct the case history. This included annual reports, presentations, and some internal memos and reports. Once the case was drafted we sent it for comments and verfication to both the customer and supplier, who counter checked it and signed it off for publishing. Together these sources and procedures allowed us to develop a qualitative, interpretative approach to case study construction (Walsham, 1995). So constructed, the case history will now be detailed in the next section.

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