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The Case for Selective ICT Outsourcing: it's easier for "green field" sites

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Abstract

This paper examines published research on Information and Communications Technology (ICT) Outsourcing and uses this as a framework through which to examine the delivery of ICT services at the South West Alliance of Rural Hospitals, an environment not without challenges. Right from the beginning the CIO appointed to the Alliance decided to address these challenges by implementing a high speed telecommunications network to reduce the costs of data, voice and video communications within the Alliance. The emergence of the truly virtual health care network in Victoria's South West supported by external service providers but managed by a small yet powerful central ICT team holds a number of useful lessons for the delivery of services in start up cooperative organisations, particularly regional, rural and remote (R3) organisations.

BACKGROUND

The continued growth in the availability and power of information technologies empowered by a parallel explosion in communications technologies has resulted in the radical reshaping of business strategy and the restructuring of organisations. The Internet and its attendant technologies have been and will continue to be key elements in business transformation. But the Information and Communications Technology (ICT) function within business is being transformed alongside the traditional business functions. Executives are questioning whether the ICT infrastructure in place is adequate, whether it is properly aligned to the corporate strategies and whether it is delivering sufficient benefits.

Mindful of this, in 1997 the Health Department of Victoria (DHS) felt that some action was needed to ensure the Acute Health sector was appropriately structured and making appropriate use of ICT. KPMG was engaged to prepare an ICT strategic plan, which had the prime objective of identifying whether a significant investment in ICT could reduce the costs of delivering Health services.

The KPMG ICT plan as presented to the Victorian State Government in 1997 proposed a capital injection of $400 million with the aim of saving 3.5% of the Healthcare Budget per year within four years. The strategy split Victoria into 14 health regions (5 Rural and 9 metropolitan). Each region would have a CIO appointed with a clear charter to implement the strategy in that region. In practice only $100 million was made available over the four years but operating budgets were cut on average by 1.5% on the expectation of the planned savings. So this initiative was never fully funded, but the assumed operating savings factored into hospital budgets locked the regions into the plan.

This paper explores the evolution of ICT services in the South West Alliance of Rural Hospitals (SWARH), one of the five rural regions established. It examines the strategic use of outsourcing to deliver a high level of information and communications technology services to previously independent health providers and provides an insight into the dynamics of corporate ICT strategy evolution in newly established cooperative organisations.

SWARH established in late 1997, is a voluntary network of health providers concentrated in the south west of Victoria stretching from the outskirts of Geelong, west to the South

Australian border, and reaching as far north as Balmoral. The region SWARH covers is 55000 square kms the distance between major sites ranges from 30kms to 100kms while the distance of SWARH from Melbourne ranges from 150kms to 450kms. Within this area there are 11 Public Acute Health Agencies each with a CEO and Board of Governance. Further, there are 33 separate campuses across the South West Region of Victoria. Within the region's area of influence there are a further 50 health services sites capable of benefiting from the initiatives underway at SWARH. The total annual operating expenditure is around $150 million and SWARH employs approximately 1800 effective full time staff.

APPROACH TAKEN

The establishment of the ICT service delivery function at SWARH and the emergence of a truly virtual health care network in Victoria's South West holds a number of useful lessons for the delivery of ICT services in start up cooperative organisations, particularly those in regional, rural and remote areas. The decision to selectively outsource ICT infrastructure implementation and management occurred in parallel with the establishment of SWARH; and the outcome, taking all signals and feedback from the stakeholders, has been a success.

The analysis in this paper focuses on the approach taken to implement SWARHnet, the telecommunications network that forms the backbone of the Alliance. The published research on ICT Outsourcing was used as a framework through which to examine the sourcing of ICT services at SWARH. To understand the detail of the approach adopted an examination was made of the strategic planning documents, implementation progress reports, details of the tender process and the contractual documentation. Access to this material was gained through the CIO appointed by SWARH (and the co author of this paper). Notes of meetings from the IT Steering Committee for SWARH were also available and feedback on the approach taken was obtained from the CEOs of Alliance members as well as medical and administration staff.

THE CHALLENGE

The challenge that those establishing SWARH were set was to deliver change to people, processes and procedures across the entire group. This change was to be achieved and result in a new, smoothly functioning corporate structure, using limited resources and under an imposed time frame. However, it was possible from the outset that the initial capital injection provided by Government might be a one-time event. Therefore, it was agreed that the funds should not be used to support capital investments without a long-term, self-sustainable plan.

Thus, the ICT Investment strategy developed to support SWARH needed to be economically sound and deliver recognised business process efficiencies in order to deliver hard cost savings that would ensure the implemented systems and infrastructure could expand and evolve.

All regional, rural and remote (R^3) organisations have the cost of operating at a distance implicit within their budget calculations. These costs are perhaps the very characteristic of regional Australia that can be used as a lever for technological investment. Thus, the single unifying issue faced by all CEOs in the SWARH group was the cost of doing business at a distance. The CIO determined that these costs could be utilised as offsets against the investment required to fund technological infrastructure. So, for SWARH, the "tyranny of distance" was seen as an opportunity to apply information and communications technology to improve business processes and reduce costs; and this opportunity has been used as the catalyst for change.

THE DRIVING VISION

It was generally thought that regional integration of health services would reduce operating costs. So, the CIO at SWARH felt that he had a mandate to deliver cost savings through the regional integration of health services. Further, he felt that this integration could be delivered using information and communications technology. To deliver regional integration it was important for the CIO to establish a shared vision across the 11 independent institutions.

However, he felt that striving for cost savings alone would not provide the required cooperation. So, a vision of regional integration lowering overall costs while at the same time enabling improved service delivery was developed and used as the focus for change.

SWARH was envisaged as a virtual organisation; an organisation held together by a shared investment in technology but based on collaborative decision making structures with appropriate ICT policies and standards. It was agreed that the SWARH infrastructure investment should be implemented in an “inclusive” way to enable the network to expand “organically”. A commitment to regional standards would enable the implementation of complex IT strategies and ensure that the whole region benefited from any investment made. New health service organisations would be able to participate in the SWARH group at the marginal cost of the infrastructure expansion required to meet their needs.

It was conceived that although the ownership of SWARH would be through participation, a legal framework would be established based on binding agreements. This legal framework, established along with SWARH, ensured members recognised that they incurred liabilities and responsibilities when the “Virtual Organisation” entered into contracts. An important point, because the other innovative approach used by SWARH was to concentrate its ICT staffing investments in the strategy development and implementation planning areas while outsourcing other aspects of ICT service delivery to external service providers. The entire strategy was achieved with a specialist ICT staff of only five people supplemented as required by external service providers.

THE ICT INFRASTRUCTURE OPTIONS

The CIO at SWARH believed that investing in a minimal telecommunications network, sufficient to share data across the 33 sites of the 11 independent institutions, would enable the centralisation of administrative applications and deliver some savings. However, management would view such an ICT infrastructure investment as a cost to be minimised. Alternatively, he felt that investing in a high speed wide area network (WAN) able to carry voice and video in addition to data would deliver reductions in communications costs sufficient to support the on going infrastructure maintenance and expansion. Such an investment would also deliver the needed links to implement regional integration and, in time, would offer new capabilities and expand the services available in the region.

In order to convince the 11 CEOs to agree to more than a minimal telecommunications network there was a need to market the concept widely and to commit to measuring the outcomes. Many see the measurement of business outcomes achieved by investments in technology such as WANs as a difficult exercise. However, the CIO at SWARH saw the measurement of business outcomes as necessary to ensure the service reached its potential but more importantly to ensure ongoing investment in new and emerging technologies i.e., new initiatives that would uncover unplanned opportunities for business process improvement and raise the quality of service to clients.

Indeed, the identification of appropriate “business drivers” and the establishment of the decision making processes required to fully implement the shared telecommunications strategies agreed were seen as the cultural glue that would hold the virtual community together.

THE ICT INFRASTRUCTURE IMPLEMENTATION

Initially, the ICT infrastructure status of SWARH members was typically about 5 or 6 years behind most business sectors at the time. Significant upgrades were required simply to keep the operational infrastructure running and to maintain a level of service anywhere near what was expected by the users of ICT. An initial five-year Information Technology Strategic Plan (ITSP) was agreed to address the operational infrastructure upgrades needed to deliver on the long-term vision for ICT. At the initiation of the project it was estimated that to implement the infrastructure planned in the ITSP in a sustainable way would require SWARH to commit approximately 2% of its gross operating revenue (GOR) on an annualised basis. Therefore this was the level of immediate savings targeted by the initial plan. This together with the more traditional ICT investments such as workstation roll out and upgrade, software acquisition and staff training resulted in an overall ICT commitment across the Alliance of

approximately 4% of GOR; a figure significantly higher than normal government and semi government organisations but closer to typical service industry budgets.

The high-speed telecommunications network project was implemented incrementally in order to minimise the risk of service disruption. But success was not achieved without some political intrigue and lobbying. For example, the implementation of a telecommunications infrastructure by a group of rural Hospitals, in seeming competition with VicOne (the Government telecommunications contract with AAPT in place in the southwest when SWARH was established) created a lot of tension outside the region. SWARH had tested the market through an open regional telecommunications tender and established that the supplier presenting the winning tender could build, operate and maintain the WAN needed for less than 50% of the cost of achieving the same outcome using the VicOne service.

After some discussion, the Victorian Government agreed that the proposed network was more cost effective than the existing VicOne service. In June 1999, after a series of political compromises by a number of players, SWARH signed contracts for the implementation of SWARHnet using a combined service provided by AAPT/ VicOne, Multimedia Victoria and Ericsson. In September 1999 SWARH signed an agreement with AAPT for the delivery of a 4Mbps service between all SWARH members for the next 5 years. This agreement established a new regional model for Telecommunications. SWARHnet, fully funded through direct savings, was officially opened in June 2000[1].

SHARING THE COSTS APPROPRIATELY

When investing in telecommunications infrastructure there are significant economies of scale. However, although smaller organisations generally need the same functionality that larger organisations require they have difficulty in justifying and funding state of the art systems supported by advanced networks, to improve efficiency.

The independent operations within SWARH vary widely in size; some members operate with annual budgets of between $2 million and $3 million while the largest operates with an annual budget of over $60 million. So, together with the distance problem SWARH also faces a problem the CIO terms the “Tyranny of Size”.

SWARH addressed the “size” question by implementing a collegiate policy, which recognised that opportunities were created for all when small organisations were encouraged to work with larger ones and that benefits were delivered to all if the whole region combined to pursue a common goal (regional integration).

The financial approach adopted by SWARH was simple — Alliance members contribute to a pool of funds based on their operating revenue; the funds are managed centrally; and projects are funded so that all members achieve the minimum standard necessary to participate in a regional communications network.

This approach ensured that minimum ICT standards were achieved across the region. All purchases of value adding ICT infrastructure and applications were based on economies of scale and delivered to all Alliance members using the most efficient delivery mechanism i.e., centralised, distributed or outsourced. This created a platform for business change at the local level, right across the region. But, clearly the greatest initial impact was in the smaller hospitals, those with the least ICT resources and typically least able to afford the required infrastructure. However, justifying and implementing all projects under a “pay as you use” regime smoothed the pressure on all financial budgets, as indeed did the cost allocation model employed[2].

THE DILEMMA OF OUTSOURCING ICT SERVICES

The concept of “ICT outsourcing” has come to mean turning over responsibility for all or part of an internal information technology function to an outside organisation. The delivery of ICT

[1] For a more detailed picture of the SWARHnet design, the staged implementation, the achievements delivered, and the political hurdles surmounted see Hewett and Druitt 2002b.
[2] For more detail on the SWARH cost distribution model see Hewett and Druitt 2002a.

services via outsourcing contracts has, for some years, been seen as an attractive business performance tool; improving productivity; reducing costs; and increasing competitiveness.

By the early 1990s many senior executives had come to view ICT as a necessary cost to be minimised. They classified the entire ICT function as a non-core activity and reasoned that ICT service vendors had the economies of scale and technical expertise to provide services more efficiently than did internal ICT departments (Lacity and Hirschheim, 1993; 1995).

So, throughout the 1990s we saw organisations identifying non-core functions and outsourcing them. In many situations this lead to the removal of the ICT function from the corporate structure in the belief that this action would enable businesses to concentrate on core functions and to avoid being locked into a particular technology implementation or systems architecture.

Australia has been at the forefront of the adoption of ICT outsourcing particularly "large-scale single vendor outsourcing" deals. Thomsett (2001) estimates that Australian ICT outsourcing exceeds A$20 billion. However, there is some evidence from the Australian experience, that outsourcing of ICT is not achieving the expected outcomes (Rouse *et al.*, 2001).

The challenge of when and what to outsource

The major ICT sourcing challenge for both general management and ICT professionals has become to determine the circumstances under which ICT outsourcing will bring benefit, those under which it will bring pain, and how best to minimise any risks involved. The consequences of poorly handled ICT investment decisions could be the loss of competitive opportunities and the waste of resources on relatively unproductive technology. Poorly handled ICT outsourcing tenders carry an even greater risk, because a failed contract might require heavy spending and a considerable elapsed time to bring the ICT function back onto the right track (Hewett, 1994). Indeed, "ICT managers commiserate over the challenges of convincing senior executives that, contrary to popular belief, outsourcing isn't always a money-saving option" (Hirschheim and Lacity, 2000:1).

Over the past ten years ICT outsourcing has regularly been reported as delivering positive and negative outcomes with no clear consensus emerging (see for example Loh and Venkatraman, 1992; McFarlan and Nolan, 1995; Lacity and Hirschheim, 1993; 1995; Lacity and Willcocks, 1996; 1998; 2000(a); 2000(b); Lacity *et* al., 1996; Collins and Phillips, 1999; Dempsey, 1999; Hirschheim and Lacity, 2000; Thomsett 2001).

Thomsett argues that many people see outsourcing as one of the pillars of modern management and economic practice. But he observes that ICT is one of the most difficult management topics to discuss because in many groups, the word "outsourcing" is not an economic or management concept but an emotional and political concept. The use of hard-edged slogans such as "don't automate, obliterate", "lean and mean", "non-core" and "zero added value" when examining business processes, roles and the people who have been filling these roles, makes it very difficult to avoid emotion and value-laden opinions (Thomsett, 2001).

Total versus selective outsourcing and the notion of "risk"

Even proponents of outsourcing identify "total" outsourcing deals with a single vendor as a high-risk strategy (McFarlan and Nolan, 1995). It has been suggested that outsourcing risks can be mitigated by adopting a multiple vendor approach, adopting a selective outsourcing approach and using shorter-term contracts (Lacity and Hirschheim, 1995). So, more recently, we have seen a number of more creative and mature approaches to large-scale single vendor outsourcing, all aimed at delivering business advantage (Willcocks *et al.*, 1999).

Lacity *et al.* (1996) point out that most of the companies reporting successful experiences with ICT outsourcing used a reasoned, incremental, and selective approach to outsourcing. While 'total' outsourcing, characterised by long-term 'megadeals', often led to trouble only a few years into the contract. "[A]fter the initial honeymoon, these companies complained of a loss of alignment between business strategy and IT, failed promises to access new technologies, and contractual costs that are significantly greater than current market prices"

(Lacity *et al*., 1996:15). Further, senior executives found it to be prohibitively expensive to switch vendors or bring the outsourced ICT functions back in-house after strategic partnerships failed.

Simplifying the decision using standard make-or-buy approach

Often organisations that approach the sourcing of ICT like any other make-or-buy decision make a mistake, because ICT functions are distinctive and permeate most organisational boundaries. So, these services cannot be easily handed over to an external service provider. Further, predicting ICT needs in even the medium term is difficult. Thus, typical outsourcing contracts have only vague references to future technologies and such poorly constructed contracts can hinder the adoption of new technologies or the introduction of change required to address an emerging strategic imperative.

Although there are economies of scale in some aspects of ICT, efficiency savings in ICT functions have more to do with ICT practices than economies of scale. Lacity *et al*. (1996) found that expected vendor efficiencies were based more on planned improvements to management practice than on inherent economies of scale, because most cost reduction tactics can be duplicated in house if appropriate senior management support is provided to overcome the resistance of users. Accordingly Lacity, Willcocks, and Feeney argue for a selective sourcing framework for examining the complex issues and assumptions associated with ICT sourcing decisions. Rather than ask "should we outsource or insource IT?" they believe the really productive question is "where and how can we take advantage of the developing market for IT services?" (Lacity *et al*., 1996:17).

The ICT sourcing options

The ICT sourcing options identified by Lacity *et al*., (1996) also provide useful insights. Their options were categorised along two dimensions. The first dimension plots whether the contract represents a "transaction" (a one-time contract with enough detail to be the original reference document) or if it represents a "relationship" (a less detailed, incentive contract based on the expectation that customer and vendor will do business for many years). The second dimension measures the degree to which the contract represents a continuum between the purchase of a "resource" (the purchase of vendor resources, such as hardware, software, or expertise, with the management of the delivery maintained in house), and the purchase of a "result" (the vendor both delivers the required resources and manages the delivery of the ICT activity to provide the company with the specified results).

Four distinct contract classes emerge from this matrix:

- A "Buy-In" strategy where companies buy vendor resources to meet a temporary need, frequently referred to as a *time and materials contract* — a one-time transaction to purchase a resource;
- A "Contract-Out" strategy where the vendor is responsible for delivering a clearly defined need spelt out in a *well defined contract* — a one-time transaction to purchase a result;
- A "Preferred-Supplier" strategy where companies develop a contractual relationship for ongoing IT activities with a vendor for the provision of resources on an *as required basis* — an ongoing relationship for the supply of a resource; and
- A "Preferred-Contractor" strategy where companies contract with a vendor for the management and delivery of an IT activity that ensures shared goals and prevents vendor opportunism supported by an *incentive-based contract* — an ongoing relationship for the supply of a result.

Lacity, Willcocks, and Feeney show that both the "Buy-In" and the "Preferred-Supplier" approach should be seen more as "insourcing" than "outsourcing" even though external suppliers are involved. This is because the decision making, the management and the risk are all kept in-house. Where as both the "Contract-Out" and "Preferred-Contractor" approach to ICT sourcing involve building a close relationship with the external supplier, based on shared goals and allocating the responsibility for delivering a result, defined within contractual parameters, to the external supplier and are therefore true "outsourcing".

SWARHNET — THE MECHANICS OF IMPLEMENTATION

Late in 1998 SWARH commenced building SWARHnet, a project to improve the telecommunications infrastructure available to members. The SWARH definition of telecommunications included the provision of voice, data and video to the desktop – with a preference for a single cable using Internet Protocol (IP). It also included the transparent delivery of the same services between SWARH members and to Melbourne. Companies such as a Telstra, NEC, Ericsson, AAPT, Optus and Dimension Data (then Comtech/Cisco) responded to the initial expression on interest call[3].

The sourcing approach adopted

After an exhaustive analysis of the final tender responses SWARH selected a supplier to implement phase one, its "single cable" to the desktop vision. This involved the installation of standard cabling systems, Cat 5 enhanced, to all staff desktops within each of the 33 sites. These cabling systems combined with the active routers and switches created a voice enabled infrastructure within each of the sites. The connection of staff to the network using standardised state of the art cabling systems was completed in the 1999–2000 financial year under a single contract with Dimension Data. This was a one-time transaction (all network points were to be certified with cabling warranted for 20 years) to purchase a result (to provide all Alliance member staff with access to a high-speed network in the workplace). Thus, Lacity *et al*. (1996) would classify this approach to ICT sourcing as "Contract-Out".

A second tender was let within 6 months of the first to implement phase two. The target for phase two was to connect all Hospitals to each other. Therefore this tender focused on the provision of a wide area network (WAN) between all major SWARH sites and Melbourne. Once again NEC, Telstra, Ericsson, Optus and AAPT bid for the work. After a series of political compromises (see the ICT Infrastructure Implementation section above), the implementation of the WAN strategy was under taken by AAPT/VicOne, Multimedia Victoria and Ericsson. Again, Lacity *et al*. (1996) would classify this as "Contract-Out". However to ensure single supplier accountability and continuity of service during the operational phase of the SWARHnet initiative SWARH signed an agreement with AAPT for delivery of 4Mbps service for the next 5 years (under a 99.96% uptime service agreement). Phase two therefore could be seen as the establishment of an ongoing relationship (with AAPT) for the supply of a result, (the 4Mpbs service). Lacity *et al*. (1996) would classify this approach to ICT sourcing as "Preferred-Contractor".

In addition to the primary telecommunications contracts SWARH entered into a series of "peripheral" or "supporting" arrangements to strengthen overall ICT service delivery to Alliance members. For example, the AAPT links delivering the 4Mpbs service are underpinned by dial on demand on-ramp services utilising the Telstra network but outsourced to Dimension Data and remote dial-in services are outsourced to AAPT using the SWARHnet Firewall and various local call Points of Presence (POPs). No internal ICT staff are dedicated to typical network "change, service and modify" tasks; because all WAN/ LAN active equipment has its management, monitoring and maintenance outsourced to Dimension Data (core equipment has "24 x 7" support with an agreed 4 hour response time). Each of these arrangements would be classified as a "Preferred-Contractor" approach.

While concentrating its primary SWARHnet delivery through large national service providers SWARH has not neglected its regional citizenship obligations. They have taken an active role in building the local region's ICT service capacity; for example, workstation ordering, delivery, installation to the desktop, testing and staff training are outsourced to Country Wide Technology (CWT), a "local" organisation. This arrangement could be viewed as a "Preferred-Supplier" service (i.e., still an insourced operation); but CWT also provides a regional primary helpdesk to SWARH users. This adds a purchase of a "result" dimension, changing the arrangement to an outsourced function best described as a "Preferred-Contractor" approach.

[3] Note these were all traditional voice/PABX companies except for Dimension Data.

The financial payback

The financial payback to SWARH from the implementation of SWARHnet was significant — a 40% saving in voice communications costs, over 90% saving in video conferencing costs and a 31% saving in travel costs (Druitt, 2001). These business returns have been achieved because; all calls within the region have been automatically routed across SWARHnet at zero cost; calls from SWARH sites to Melbourne have been reduced to the cost of a local call; and the reduction of PABX equipment reduced annual maintenance costs.

These demonstrated business returns were calculated after analysis of telephone accounts pre and post the implementation of the telecommunications network and the roll out of voice over IP (VoIP). Significant future capital investments allocated for the replacement of multiple PABXs have been eliminated. But, these future capital savings and other indirect savings based on estimated future demand patterns were not included in the published benefit statement. This conservative accounting approach ensured support from senior management. Clearly telecommunications costs for SWARH members have dropped dramatically. It is expected that the patterns of use will change; that innovative use of voice and video over the IP network will reduce travel costs yet further; and that through this innovation new forms of service delivery will emerge.

The focus on organisational needs

The acclaimed success of the ICT outsourcing at SWARH (Adams, 2002; Denton, 2002) should be seen as an example of selective outsourcing supported by a strong in house management team dedicated to ensuring the stakeholders receive the desired services. The CIO's close links with the CEOs of each of the members of SWARH was critical in building trust and in ensuring appropriate business needs were identified and appropriate business drivers used to measure results. The Office of the CIO provided the links between the numerous operating committees that directed and measured the progress of the SWARHnet project. This involvement ensured that a clear understanding of organisational needs was used in the strategic planing for ICT delivery, in the framing of service contracts and in the ongoing management of the relationships with external service providers.

The steady expansion of the services[4] as additional health providers join the network attests to the success of the ICT team in tracking and mapping the business needs of the Alliance and managing complex relationships both within SWARH with external service providers.

ICT FUNCTION MANAGEMENT ISSUES

Planning for the delivery of ICT infrastructure services requires considerable management skill, particularly if these services are to be sourced through an external service provider. The fine line between seeking quotations to given "requirements" statements and seeking a consulting organisation to examine "needs" and propose solutions will often need to be explored. The tendering and contracting for services is a critical corporate skill; because errors can be made, which might have long-term consequences, if ill-defined contracts are entered into. Therefore in any ICT sourcing decision there must be a clear internal resource made responsible for planning the course to be adopted, overseeing the implementation and managing the ongoing relationship between internal and external ICT resources.

The Gartner Group identified five key roles that must be retained in-house in order to manage sourcing relationships. They argue that these roles will first complement, and eventually dominate the traditional ICT management roles. "The five key roles which combine business and ICT management abilities include vendor management; technology advancement; business enhancement or business process analysis and design; architecture development, which is responsible for ICT technical design; and finally, ICT leadership, which fuses ICT with business … none of these roles is entirely new, but their constituent activities, which have been ill-defined in the past, are becoming clearer." (Bushell, 2001b).

[4] Over 100 separate sites, including 20 sites from a government body not directly health related, have been connected as of Setpember 2002.

In addition to their contract classification observations Lacity *et al*. (1996) also make an important point that regardless of the contract class used, ICT sourcing requires a strong in-house team with the ability to:

- Track, assess, and interpret changing ICT capability and relate this to organisational needs;
- Work with business management to define the ICT requirements successfully over time; and
- Identify the appropriate ways to use the market, to help specify and manage ICT sourcing, and to monitor and manage contractual relations.

The key element in the SWARH ICT sourcing strategy was to establish "contract out" or "preferred contractor" arrangements managed by a strong internal ICT team. The CIO employed by SWARH had the experience and background to assume the Gartner Groups five key roles. And, when it was established SWARH immediately built a core ICT team. SWARH ensured that this team had the required managerial skills firmly in place before it embarked upon the challenging initiative of SWARHnet, a major innovative project rollout.

CONFLICTS BETWEEN ICT OUTSOURCING AND INSOURCING

Mary Lacity and Rudi Hirschheim undertook an important analysis of the ICT Outsourcing/Insourcing debate with a detailed analysis of 21 cases (both insourcing and outsourcing) from Fortune 500 companies in the USA (Lacity and Hirschheim, 1993; 1995) and followed this up with a further analysis of 14 significant insourcing cases that enabled them to further understand the ICT sourcing debate (Hirschheim and Lacity, 2000). Their insights into the conflicts between outsourcing and insourcing provide an excellent template for use in examining the outsourcing initiatives undertaken at SWARH.

They argued, *inter alia*, that:

- The published literature portrayed an overly optimistic view of ICT outsourcing;
- ICT outsourcing appeared to be a symptom of the problem of demonstrating the value of ICT;
- The metaphor that ICT is merely a utility was misguided;
- Conflicting stakeholders' expectations placed ICT managers in the precarious position of being challenged to provide a premium service at a minimal price;
- Senior management needed to empower the ICT function to implement change; and
- Cost efficiency largely depended on adoption of efficient management practices and to a lesser extent, economies of scale.

Therefore SWARH needed to examine all proposals carefully to ensure that decisions were based on business outcomes. It was also important that ICT projects were seen as value delivery initiatives rather than cost saving efforts and that decisions were not politically motivated. SWARH focused on a vision of regional integration which delivered an opportunity to enhance the service delivery to the region. The ICT team at SWARH rather than concentrate on specific technical deliverables were challenged by senior management to deliver enhanced services and process efficiencies through regional integration.

MANAGING STRATEGIC SOURCING RELATIONSHIPS

For strategic synergy to exist, the two organisations in a partnership must believe that together they can achieve a high level of benefits along with the opportunity for growth. Ideally, the goals and benefits of the partnership should be explicit and the relationship, if it is to be successful in the longer-term, should reduce the level of risk for both organisations. In other words each party should benefit fairly from the relationship.

Indeed, Blumberg argued for the agreement of a combined "value proposition". This value proposition proposed would consider how the organisation's staff and customers were affected by the relationship, for example how the product or service made them more successful, profitable, competitive, efficient, effective, productive and/ or satisfied.

He recommended that the partnership validated these objectives directly with those affected. But, to do this, the organisation needed to describe explicit, quantifiable benefits, to assess the feasibility of reaching goals and to establish the date by which measurable success was expected (Blumberg, 2001).

The role of senior management

The growth in significance, and in the size, of outsourcing deals, has resulted in an increased concern with the actual management of an outsourcing venture, and in particular with the issue of risk mitigation (Willcocks *et al.*, 1999). It is generally agreed that strategic outsourcing initiatives must come from the top echelons of an organisation. Senior management must articulate the goals and objectives of the outsourcing initiative and communicate how the process will benefit the organisation (Griffiths, 2001). At SWARH all sourcing decisions were made at the ICT Steering Committee level involving all member CEOs and the appointed CIO.

Blumberg (2001) commented that while a lot of attention was normally given to a potential ICT outsourcing vendor's capabilities, it was also important to assess the purchasing organisation's suitability as a partner, which he argued should be measured on several dimensions.

Firstly the organisation's ability to build relationships — do the managers responsible for implementing the planned outsourcing contract possess the necessary experience in managing strategic sourcing relationships and do they understand the key factors for success in an alliance?

Next the degree of top management support — have the organisation's senior managers set the strategic direction and do they provide a supportive atmosphere that encourages innovation?

Finally the plan for overcoming problems — for example, have the managers responsible for implementation identified any potential internal political and cultural resistance and have they planned to quickly overcome this resistance early in the process?

The positioning of the Office of the CIO ensured that its primary focus was on the issues identified by Blumberg. And, the structure of the ICT function at SWARH ensured that the ICT team were responsible for assessing and defining the organisation's needs; defining and agreeing measurable benefits; working with senior management to identify the appropriate ways to source ICT services to meet these needs; managing contractual relations with external suppliers; and finally monitoring the achievement of the target objectives. The performance measures identified and embedded in contracts were defined in terms of business outcomes, budgets and responsiveness.

Selecting external service providers wisely

Gartner Group analyst Richard Matlus argues that as enterprises become more dependent on external service providers, and as they look to sign long-term agreements in a rapidly changing market, they must decide whether to build their sourcing strategies around a single vendor or around multiple, integrated suppliers (Bushell, 2001a).

Our analysis of the SWARH case indicates recognition of this observation. Limited resources for the technical management of outsourced agents meant that one primary agent was selected and given the responsibility to manage all subagents. This meant that the CIO had only to manage a single supplier/ partner and that this could be done in a strategic way concentrating on the broad strategic parameters of outcomes and costs. This was possibly a variation of the old proverb — "don't put all your eggs in the one basket". The advice now becomes — "if you put all your eggs in the one basket then you should watch over it very carefully".

THE IMPLICATIONS OF SWARH AS A GREEN FIELD SITE

Powerful stakeholders within organisations often have performance expectations for the ICT function that impose significant costs on an internal ICT function. They expect and demand superior levels of service from all ICT initiatives paid for from corporate overheads. These

very overheads and seemingly excessive ICT costs are questioned by senior management when they examine outsourcing opportunities. Thus, the typical ICT manager might have a number of ideas to reduce costs, but internal user resistance will have limited just what can be implemented (Lacity *et al*., 1996). However, as indicated in later research "[t]he issues associated with the choice of an [ICT] sourcing strategy are often murky, hidden behind euphemisms, perceived differently by different stakeholder groups, and generally not easily analysed" (Hirschheim and Lacity, 2000).

As indicated above, it is often incorrectly assumed that an outsourcing vendor can reduce ICT costs because of inherent economies of scale, when most planned savings come from changed managerial practices. These efficiencies are also available to an internal ICT function. The successful companies studied by Lacity, Willcocks, and Feeney (1996) compare vendor bids, not against the existing ICT cost structure, but against a bid from the internal ICT managers constructed under the same constraints that were agreed with the tendering vendors.

SWARH, as a new organisation or a "green fields site" had only minor internal ICT resources and no technical team capable of building the required network. Nor did they wish to build such a team, because the difficulty of recruiting and retaining high quality ICT staff in the R^3 areas would add a further cost and time delay dimension to the project's risk. Thus, there was no case to argue that the existing internal service function should bid against external vendor bids.

SWARH believed that ICT staff available within the organisations should be focussed on planning, setting policy and monitoring the return on the technological investment. So the trend was to outsource all tasks that did not add direct value in the delivery of the Alliance's core business. The challenge was to ensure that the existing ICT staff were equipped with the skills required in the changed organisation; and to establish efficient management practices, concentrating the ICT resources available in the managerial and planning roles leaving the delivery of raw services to the experts. Addressing the ICT Function management issues identified by Lacity, Willcocks, and Feeney (1996) and the Gartner Group (Bushell, 2001b).

At SWARH there has been no real correlation between technological investment and ICT staff growth. The need for ICT support growth was limited by: bundling project management, implementation and ongoing support with contracts to deliver any ICT product.

In summary the SWARH group has approached ICT sourcing from an integrated perspective first identifying the needs of the organisation next identifying the various internal and external resources that will be combined to deliver the identified needs. This approach is supported by the findings of Gartner Group analyst Richard Matlus who called for the development of strategic sourcing as a management discipline in the IS function (Bushell, 2001a).

IDENTIFYING AND MANAGING RISK

There is a significant difference in the support and maintenance of new multipurpose networks, carrying voice and video as well as data, from that required by simple data networks. There is an increased need for network uptime; support response time must be reduced; the critical network points are critical phone points; and real time conversations cannot be retransmitted or restarted transparently. Indeed, adopting new(est) technologies or working "at the bleeding edge" involves significant risk.

The health care industry is very risk averse; but, the SWARHnet project was of necessity risky. So why would a health group like SWARH chose to be the first health service provider in the world to switch totally to IP Telephony? More importantly what risk management approaches were used to ensure the project was an overall success?

From the outset it was agreed that there was more to analysing proposals to deliver and/ or manage SWARHnet than simply the bottom line costs. Any analysis also needed to examine implementation and operational risk. To be considered, submissions from external service providers needed to demonstrate an understanding of network reliability consistent with SWARH's plans for the network. Further, the disaster recovery plans proposed for

controlling and managing SWARHnet needed to reflect high user expectations and to demonstrate a move away from support of equipment towards the support of an expected service.

Measuring the performance of external contractors in managing the reliability of SWARHnet was the key role for the Office of the CIO. Although significant effort was expended in developing appropriate service contracts the CIO believed that it was not the contracts themselves that ensured success. Rather, success depended upon the personalities involved, the financial commitment made by the region and State Government and the vision of the ultimate goal shared by all stakeholders. The CIO felt that treating external service providers as "partners" and ensuring they had as much as SWARH to gain from success, was the key initiative used to make sure there was a smooth introduction of the technology with minimal disruption to "normal" service delivery. Selecting partners who clearly had the capacity to succeed was important, as was the insistence that the partners involved demonstrated an international perspective along with a commitment to use the SWARH project as a model for future initiatives.

The essential strategy taken by the CIO was to use the public interest in high-risk technologies as the lever to ensure the maximum interest by all partners (SWARH group members, Government bodies and the external service providers). It was well recognised that the publicity derived from a successful project such as SWARHnet would be good for the external service vendors. But publicity should always be seen as a two edged sword. It was the threat of the negative edge, with potential detrimental side effects on future contracts that ensured the vendors involved in the SWARHnet project paid maximum attention to the agreed business outcomes. To implement SWARHnet the Alliance selected the largest data communications company in the world (Cisco) and working with the largest integrator of Cisco products in Australia (Dimension Data).

SEPARATING SUCCESS FROM FAILURE

The most common method of identifying success and failure of ICT sourcing decisions is to analyse the financial outcomes. Successful sourcing decisions are those that achieved dramatic cost savings (typically in the order of 20% or more) while failures are decisions that achieved little or no cost savings. But, "[s]uccess is related to who is doing the evaluating" (Hirschheim and Lacity, 2000:107).

Hirschheim and Lacity analysed success and failure of sourcing decisions along stakeholder lines. They found that in the majority of cases, the notion that cost-savings was the primary criterion for success showed a bias towards the perceptions of senior executives, because typically they saw ICT as a cost to be minimised. They identified cases where senior executives deemed the ICT sourcing decision a success, whereas the impacted users classified the decision as a failure. Unlike senior executives who focused on cost, the primary criterion for success perceived by system users was service excellence. Thus, where service degradation accompanied even significant cost savings, users remained displeased with the outcomes.

Herschheim and Lacity categorised stakeholders into three main groups and acknowledged that each stakeholder group had a different ICT performance expectation. The stakeholders identified were: senior management, business unit managers and users, and the managers responsible for ICT.

They argued that senior management tended to view ICT as an overhead, which served only to highlight the costs, and not the value of ICT investments. This explains why senior management's focus is on cost minimisation. However, business unit managers and users tended to view ICT as a service that must be tailored to meet their business requirements. Thus, users normally identify service excellence as their major expectation for ICT performance. CIOs and managers of the ICT function are therefore forced to balance the demands of senior management for cost reduction against the expectations of service excellence from business unit managers and users.

Hirschheim and Lacity identified this as the "cost/service dilemma", and depicted ICT as a cost/service trade off matrix, which highlighted these realistic versus unrealistic ICT performance expectations. They argued that equilibrium cost/service was achieved where

ICT could be seen as providing a premium service for a premium cost or where ICT provided a minimal service for a minimal price. Where an organisation as a whole perceived that a given ICT function was a critical contributor to its overall performance, equilibrium would be achieved where a premium service was delivered but clearly at a premium cost. However, if an organisation perceived that a given ICT function was merely a commodity, equilibrium would be achieved where ICT delivered a standard, relatively minimal service at a low-cost. But, they acknowledged that equilibrium was not always achieved, and cost/ service perception problems would creep in where a difference existed between the expectations of senior management and those of business unit management.

Hirschheim and Lacity found cases where CIOs were expected to perform the near impossible with senior management demanding cost cuts while users and business unit management demanded service excellence — "IT managers could not simultaneously satisfy both stakeholder groups because the best practices associated with one objective are in direct conflict with the best practices prescribed for the other objective … neither stakeholder group was satisfied and [the organisation] began to perceive that IT provided poor service that cost too much." (Hirschheim and Lacity, 2000:107).

Thus, unless otherwise convinced by raw financial argument the SWARH steering committee might have required that the CIO directed the ICT team to provide a commodity function as inexpensively as possible. This would have been achieved by investing in the minimum infrastructure required to deliver an acceptable service. However, so far it has been observed that business unit managers and users working with the clients of the Alliance constantly strive to use the ICT infrastructure to expand the service offered. As they identify new methods of service delivery that depend upon the ICT infrastructure they seek (even expect) smooth implementation of these new capabilities. And in this senior management supports them. This is possibly because the ICT infrastructure is seen as a critical contributor to SWARH's overall performance; but is may also be because the costs of SWARHnet are somewhat insulated from volume usage.

The stakeholders at SWARH generally acknowledge that the new facilities available to them as a direct result of the initiatives entered into by SWARH have delivered real benefits. So, by concentrating on business drivers in parallel to the notion of providing value added services available as a direct result of the infrastructure the CIO at SWARH has managed to appease both sets of masters. In parallel SWARHnet had provided the State Government (yet another set of masters) with an ICT service delivery model capable of being used as a blue print for similar initiatives elsewhere in the State.

The sourcing of ICT at SWARH has delivered a service that is perceived as "premium" by the unit managers and users while at the same time is perceived as "cost effective" by senior management, Hirschheim and Lacity's "super star" performance. Thus, our analysis of the South West Alliance of Rural Hospitals case leads to the observation that in entirely new initiatives involving the integration of cooperative organisations, particularly R^3 organisations, outsourcing ICT services may have a higher probability of success than insourcing.

SUMMARY

In implementing its five year ICT plan SWARH has chosen to use selective outsourcing. They selectively used ICT sourcing strategies such as the "Contract-Out" and the "Preferred Contractor" approach depending upon the nature of the contract. They maintained control of ICT planning and ensured that their ICT team had the capacity to work within the organisation to define standards and manage all contractual relationships. This was consistent with the generally agreed research, which observed that total outsourcing and total insourcing were both poor strategies for most companies because these strategies failed to capitalise on the inherent cost advantages of functions possessed either by the internal ICT departments or by external ICT service providers (Lacity and Hirschheim, 1993; 1995; Hirschheim and Lacity, 2000).

However, the success of ICT outsourcing at SWARH was not simply that it was cheaper than insourcing. All ICT investments were required to return "hard" financial benefits sufficient to cover the cost of the initiative. But, it was the "soft" benefits, those more difficult to define financially, where outsourcing was seen to be superior to insourcing for SWARH.

The key for SWARH was ensuring, through contractual obligations, that the foundation upon which the value added technologies were implemented had the lowest possible risk of failure. In order to achieve this low risk, large companies whose core business was ensuring high performance were used as suppliers and prime contractors. The public profile of the SWARHnet project was high and this added to the pressure on these external suppliers to perform, particularly where they had a national or multinational profile.

Above all, SWARH recognised that successful change required sharing of the vision across all organisational levels, ownership by all stakeholders, participation by them in the decision-making and appropriate time to adjust. SWARH has emerged as a truly virtual health care network in Victoria's South West, and the Alliance continues to grow. SWARH relied heavily on external service providers but all contracts were managed by a small yet powerful central ICT team.

This small team of ICT professionals were expected to become proficient in the areas of change management, project management and productivity management; tasks which SWARH insourced wherever possible. This use of dedicated internal staff was consistent with the recommendations from Lacity *et al*. (1996) and the Gartner Group (Bushell, 2001b). The approach taken at SWARH was also supported by the findings of Gartner Group analyst Richard Matlus when he called for the development of strategic sourcing as a management discipline in the IS function (Bushell, 2001a).

The successful implementation of SWARHnet holds a number of useful lessons for the delivery of services in start up cooperative organisations, particularly regional, rural and remote (R^3) organisations.

Lessons for ICT service delivery in support of co operative groups in R3 areas

Implementation approaches recommended for an R^3 group:

- Develop a clear understanding of organisational needs;
- Identify and clearly define a set of measurable business outcomes;
- Break the link between technological investment and ICT staff growth by ensuring the internal ICT staff concentrate their efforts on strategic planning and management;
- Use selective ICT outsourcing supported by a strong in house management team dedicated to ensuring the stakeholders receive the desired services;
- Establish a single point of contact with major service providers through the use of a "prime-contractor approach"; and
- Use the "organisational needs" and the agreed "measurable business outcomes" to frame service contracts and in the ongoing management of the relationships with external service providers.

To reduce the risks in infrastructure roll out an R^3 group should:

- Identify the needs of the organisation and a clear vision of the desired outcomes before identifying the various internal and external resources that will be combined to deliver them;
- Select external service providers who have a demonstrated capacity to succeed and whose core business is ensuring high performance;
- Develop clearly defined service contracts; and
- Focus on contingency planning not only during implementation but also during ongoing operation.

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