

Benefits and issues of managed services

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Executive summary

Introduction

A managed service is any service that an establishment pays a third party to deliver on its behalf. This study examines the experiences of managed services as an approach to Information, Communications and Technology (ICT) provision across schools, further education colleges and adult learning providers (establishments). This study provides an evidence base for effective practice and gives examples of that practice in action. The research used survey techniques (see section 3) to identify and question a range of establishments making use of managed services, and then identify representative candidates for structured interviews in order to gather the details of their experiences.

Whilst being informed by a significant element of qualitative research, this report describes:

- the experiences of outsourcing ICT services
- the reasons for doing so
- how it was done, and
- issues that arose in the sites we researched.

Good practice and resultant benefits have been identified. However, this study does not aim to provide definitive evidence of cause and effect.

The case study component of this report offers a series of real-life exemplars of managed services in a broad range of establishments. They provide tangible guidance on both the benefits gained and the issues encountered when outsourcing ICT provision.

Summary of findings

1. The experience of managed services in the 29 establishments interviewed ranged from one to nine years. Five of the sites interviewed are in their second or third renewal of the contract.
2. All of the 29 managed service sites interviewed have a positive experience of their managed service and identify a range of benefits.
3. In all cases, the decision to adopt a managed service approach was triggered by some catalyst event (internal or external) which forced the establishment to objectively review its ICT services and seek solutions to resolve ICT and service delivery problems.

4. The procurement of a managed service is relatively demanding for establishments as it requires both procurement and service definition skills and is a learning curve for those who have not been through the process before. The most successful establishments using a full managed service have sought external support through either support agencies or independent consultants. One mitigation against this is reflected in current Becta advice that procurement should be undertaken by aggregating individual requirements into larger groups – local authority (LA), broadband consortia or purchasing organisations and consortiums.
5. For most establishments, the process of engaging with a managed service provider has led to a better understanding of the costs associated with ICT. With the exception of new building programmes, all sites recognised the contribution that underinvestment made to poor provision before the service was introduced.
6. The majority of new ICT spend arises from new hardware procurement and installation and is therefore not directly attributable to the managed service. However the managed service does deliver improved value for money from that investment.
7. Relatively few sites could demonstrate accurate expenditure changes as previous expenditure was not well understood. Most believed they had been under-investing in the past and so the new investment was only bringing them up to where they should have been. All establishments interviewed commented that the managed service was both affordable and sustainable.
8. Size proves to be a significant barrier to many primary schools accessing commercial providers, and the providers acknowledge that it can be challenging to provide responsive support to small schools. Therefore cluster and LA wide models were more successful for smaller schools. Two successful examples were found of secondary schools aggregating demand from primary schools so that their own managed service provider could support them. In both cases suppliers had been actively involved in helping to build the aggregation model.
9. More comprehensive managed services, where most or all ICT provision had been outsourced, had the greatest positive impact on staff and learners and had made a greater contribution to the development of the establishment's e-maturity.
10. Many establishments view management information and broadband provision as being 'mission critical' – more so than curricular ICT provision. The way in

which the provision and support for these services is embedded, and often uncommented on, is evidence of their success.

11. Schools in clusters or local authorities were most positive about their managed services when there was a greater level of involvement with the specification and procurement of the service.
12. Individual establishments tend not to use a framework (Becta or G-CAT) to support procurement but may rely on local advice and guidelines. Where the LAs had themselves outsourced part or all of their service to the private sector these had been through either Official Journal of European Union (OJEU) procurement or through an OJEU compliant framework agreement (i.e. Becta or G-CAT).
13. We found no examples of personnel being made redundant from individual establishments following Transfer of undertakings (TUPE) transfer.

Key benefits identified

14. Increased reliability leads to greater staff confidence in ICT which in turn gives an increased willingness to embed ICT in everyday practice. This has led to both efficiency gains for staff and a wider range of experiences for learners.
15. Management teams are more able to define ICT in terms of educational outcomes as opposed to managing the technical delivery of ICT services.
16. Many establishments identified a scalable and flexible solution as being important in managing both the transition to the managed service and institutional growth more generally. Requirements often became clearer after the service was introduced, some sites emphasised the role of the supplier in suggesting improvements and innovative solutions.
17. Managed service providers were able to bring further training and development opportunities for both support and teaching staff. This training was typically delivered on site and specific to the needs of the establishment.
18. Typical efficiency gains cited were reduced time spent dealing with technical problems, greater sharing of teaching resources, and better communication through emails and networked services.
19. Certainty or predictability of expenditure was identified by most sites as an important reason for outsourcing and most sites felt that this benefit had been realised.

20. Many establishments reported significant savings from aggregated purchases through the supplier. Other benefits noted were increased leverage over suppliers when purchasing through the managed service provider and the ability to trial technology before committing to a purchase.
21. Revenue savings arise from having access to the high levels of technical expertise that are needed infrequently without having to employ someone with those skills full-time or buy that expertise in through consultancy.
22. Many sites identified improved learner confidence in ICT as a key benefit. This often corresponded with the introduction of the managed service. Whilst the managed service is not totally responsible for the improved learner confidence, it is an important element in driving the confidence needed to make best use of this investment.
23. Most sites reported an increase in the adoption of e-learning as a result of more reliable and robust ICT. They also reported better facilities resulting from capital investment associated with the handover to managed service.
24. Longer term – two to three years after implementation – establishments provide clearer evidence of stronger growth towards the transformation into genuinely e-enabled organisations. It typically takes this amount of time for the confidence to result in real changes emerging. It should also be noted that the managed service will only be one component of a longer-term change management programme.
25. Some establishments noted the transfer of the risks associated with deploying and managing technical provision as being a key benefit.

Key lessons for establishments considering a managed service

26. Gaining a more accurate picture of expenditure on ICT, and associated services, and of the quality of that service before outsourcing will enable a more robust value for money proposition to be developed.
27. If the current ICT is underperforming, then ICT costs will increase as there will be a need for capital investment in equipment alongside the managed element of the service. However, it is the managed element that provides extra value through greater reliability, increased confidence, and less staff time lost to dealing with problems.
28. Establishments considering employing a managed service need to ensure that a senior member of staff is given sufficient time and resource to oversee and champion the process ideally from procurement through to the final implementation.

29. An output specification in which the benefits of the managed service are expressed in educational terms is very valuable. It is important to invest time in understanding and articulating these benefits.
30. Specialist advice should be sought from the local authority or an independent consultant to help define the specifications and procure the most appropriate managed service.
31. Establishments should have complete clarity of their business needs from a functional requirements and educational outcomes perspective before engagement with suppliers. Becta's procurement frameworks give guidance on this process.
32. Any affected staff, or unions, should be involved from the beginning. This will aid in personnel issues such as TUPE and the unease that this can create. It should be noted that respondents highlight tangible benefits for transferred personnel including training and career path benefits.
33. Establishing a sound and realistic service level agreement (SLA) that is aligned with the establishment's needs is an essential element to engaging any managed service.
34. Two schools with a managed service arranged through an early private finance initiative (PFI) programme took approximately five years to establish a mutually positive working relationship. In these cases, the original SLA had been drawn up by the local authority before any staff had been appointed to the schools. The quality of service and control over specification became an important issue during the first hardware refresh. Hence, the refresh process became a vehicle for revising the SLA.
35. Establishments agree it is advisable to have a dedicated service manager from the supplier as a single point of contact to review levels of service and work in partnership for future developments.

Observations and recommendations

36. This research demonstrates that a managed service approach to all or part of the ICT service can offer a range of benefits to establishments in all sectors.
37. It should be noted that whilst our interview framework for establishments probed some of the common benefits and issues which commercial outsourcers would address – risk sharing, change management, service evolution, and continual improvement – there was limited understanding or consideration of these by individual establishments.

38. The profile of managed services as an option needs to be raised across all sectors. The process of supporting establishments in coming to the right decision needs developing.
39. There is a need for better, independent support for the process of engaging with service providers. Expertise within local authorities appears to be variable. Local authorities offering their own managed services may have a conflict of interests.
40. There is clear evidence from the experience of all those interviewed that there is a need for better quality guidance and support in setting up a SLA when first embarking on a managed service route.
41. The length of time between the decision to outsource and the impact on learning is typically two to three years. More support is needed to help speed up this process.
42. Better advice could be given to help establishments identify the benefits of the managed service approach before a catalyst event occurs. Strategies for promoting the managed service option to establishments where ICT is not making a significant contribution to improved learner outcomes need to be explored.
43. It is extremely important that institutions embarking on a managed services path should set an "as is" baseline in terms of existing processes, costs, and service levels. Only by doing this will it be possible to measure the overall benefits and value of the managed service.

Acknowledgement.

HHES and Becta would like to thank the establishments and staff who contributed to the survey and who were kind enough to take part in our interviews and to host our visits. This report would not have been possible without your support.

Background

Project context

ICT can be provided within educational establishments in different ways. Many establishments acquire hardware and software through capital purchasing and may subscribe to some additional services (such as technical support or broadband services) which may be delivered via a third party. This third party can be a commercial provider or a public sector partner such as a local authority. Other establishments might contract for 'fully managed service' where ICT is provided as a service, assets are not owned by the institution, and staff may be transferred to the employment of the service provider. There are, of course, many establishments receiving a managed service that fits between these two extremes.

Managed services have existed in the education sector for a number of years – we have encountered some that have been established for 10 years. The Building Schools for the Future / Partnership for Schools model of local authority centred, private sector provided managed services is an initiative which is likely to impact on most secondary schools over the next 10-15 years. We therefore expect to see a significant increase in the number of schools receiving a managed ICT service over the next 10 years.

There is evidence that variation in high quality ICT service and provision is hindering the e-transformation agenda. Specifically, "...in those institutions which are not yet e-enabled, the use and effectiveness of learning and teaching with ICT is dependent on individual practitioners or department leaders." (Becta Review, 2006). Managed services can therefore be seen as a potential strategy for removing this dependence on individuals within an establishment leading to less variation between establishments with poor ICT provision.

1.1 Managed services as an approach

A managed service is any service that a school, college, local authority or other body has specified which is managed on their behalf by someone else. The services specified arise from identified needs and therefore each type of service varies according to those needs. However, within the education sector, the main intention is a reduction in the burden of ICT management resulting in more time to focus on using ICT to enhance learning and teaching. Another key intention is to transfer some of the technological, personnel and financial risks associated with managing technology to a third party.

In this review, we have considered a range of ICT managed services that vary in their size and scope. At one end of that range would be the provision of broadband connectivity to the National Education Network with associated services such as email and content filtering. At the other end of that range is an establishment

outsourcing all of its ICT provision from hardware procurement through network management including the transfer of personnel to the managed service provider.

1.2 The spectrum of managed services

The range of services described in 1.1 above was developed to a spectrum of managed services for the purposes of this research. At a simple level of service delivery this could be for contracted hardware maintenance carried out to agreed service levels. For example, equipment might be returned to a service centre with a specified time for its fix and return.

At the other end of the spectrum the research looked at services provided with significant risk transfer from the establishment to the supplier in the form of technical, financial, personnel management and educational attainment risks. Services at this end of the spectrum may be provided to specified service levels and be accompanied by a service credit regime to manage the quality of the service received.

The range of managed services developed here and addressed as part of the initial online questionnaire was classified in line with the Becta Infrastructure Services Framework. We have treated this range as a scale in functionality. These classifications of this scale are:

- 1 managed service for all establishment ICT provision including hosting, admin, resource and applications
- 2 managed service for majority of establishment ICT provision but some exclusions
- 3 provision of network management service
- 4 provision of hosted services, such as learning platform, email and content
- 5 provision of hardware maintenance
- 6 provision of software maintenance and support of administrative and curriculum applications
- 7 provision of broadband services as part of a wider service offering.

The research also looked at services with a scale of risk sharing. This scale ranges from the absence of risk transfer with no service level agreement being in place (“no SLA”), through to the credit payment mechanisms, staff transfer and educational risk transfer mechanisms mentioned above.

Table 1 shows the combination of these functionality and risk transfer scales into the managed service spectrum.

		Increasing risk transfer of service →					
Increasing functionality of service →		No SLA	SLA	SLA and payment mechanism	SLA, payment mechanism and staff transfer	SLA, payment mechanism, staff transfer and educational attainment risk transfer	
	Managed service for all establishment ICT provision inc. hosting, admin., resource, applications		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	Managed service for majority of establishment ICT provision but some exclusions		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	Provision of network management service	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			
	Provision of hosted services eg learning platform, email, content	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			
	Provision of hardware maintenance	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>				
	Provision of software maintenance and support of administrative and curriculum applications	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>				
	Provision of broadband services as part of a wider service offering	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>				

Table 1: The managed service spectrum

= Expectation of service having these attributes.

1.3 The range of establishments

Type of establishment	Service clustering
Primary school	Yes
Special school	No
Secondary school	Yes, including with primaries
LA wide	Not between LAs, excluding Regional broadband consortia (RBCs)
Academies	Yes
FE	No
Adult and community learning	No
Building schools for the future (BSF)	Yes

Table 2: The range of establishments considered

1.4 The research team

This research project was commissioned by Becta from H.H. Education Services Ltd (HHES) and undertaken between September 2007 and March 2008 by:

- Lorna Wiltshire (Project lead)
- Tim Eaglestone (Researcher)
- David Carey (Researcher)
- Paul Hykin (Project director)

Project oversight was undertaken by Professor Noel Williams of Sheffield Hallam University on behalf of Becta, and Mike Beasley at Becta.

2.0 Objectives

This research project aims to:

- create a strong evidence base of the benefits and issues associated with a managed service approach
- identify what made the establishment(s) consider the managed service route
- identify what barriers they overcame and how
- identify what benefits, both intended and unanticipated, have been realised
- identify what lessons have been learnt throughout the service delivery including areas such as change management and implementation
- highlight efficiency savings, either quantitative or qualitative
- identify within multi-establishment managed services, the relationship between the scale of the services provided (eg number of establishments, number of seats) and the effect of aggregation relating to:
 - cost
 - sharing of learning resources
 - leverage on the direction of the solution
 - centralised contract management.

Methodology

3.0 Summary of methodology

In order to address the objectives, an extensive research programme was undertaken consisting of the following stages:

- 1 Research the scope and nature of managed services within education through a market review
- 2 Identify 400 establishments who may operate managed service and ask them to complete online survey, assume 60 responses
- 3 Review the 60 responses and identify 30 candidates for site visits for further investigation
- 4 Undertake site visits
- 5 From the 30 identify 13 case study candidates
- 6 Develop case studies and gather further details from sites as required
- 7 Undertake cross case analysis based on the 13, the 30 and where possible, the 60.

3.1 Research methodology

Figure 1 shows the elements of the research methodology.

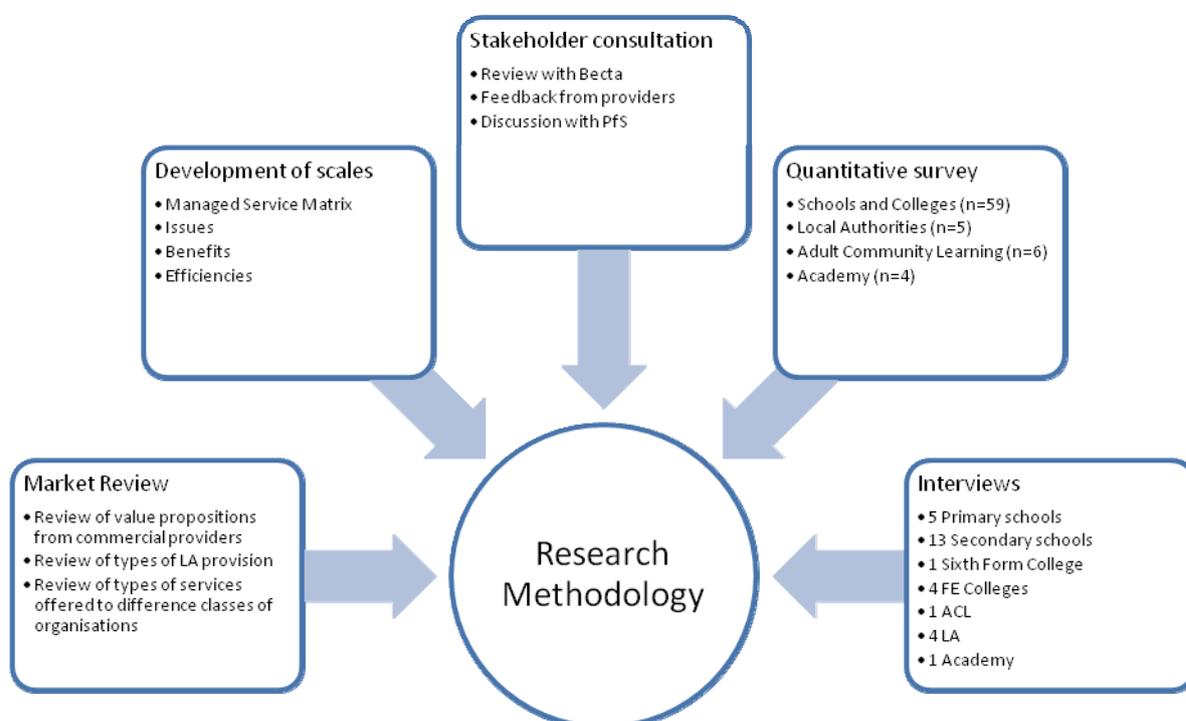


Figure 1: Main research methodology elements

3.2 Desk research to inform online questionnaire

To ensure valid data was captured during the online questionnaire, a period of desk-research was undertaken to understand and develop the preliminary reasons to adopt, barriers and measures of efficiency and effectiveness of managed services. Available historical data on managed services in educational settings was researched and reviewed.

Models were established for:

- the spectrum of types or categories of managed services
- the spectrum of types of establishment
- the effectiveness and benefits of managed service.

3.3 List of target establishments

A list of 400 candidate establishments was generated to cover the scope of establishments and managed services. Establishments were based in the United Kingdom and covered a range of sizes and urban and rural settings.

3.4 Online questionnaire for managed service establishments

An online questionnaire was developed and invitations sent to all sites to gather baseline information and establish their viability as a source of more detailed information. This data provides some baseline data for subsequent analysis. The online questionnaire invited at least 400 sites to submit data with the intention of:

- identifying sites who were receiving a managed service and who might therefore be candidates for further more detailed information gathering stages
- creating a strong evidence base of the benefits and issues associated with a managed service approach
- identifying why establishments considered a managed service route
- identifying what barriers they overcame and how
- identifying what benefits, both intended and unanticipated, have been realised, and
- identifying what lessons have been learnt throughout the service delivery.

Establishments were sent the link to the online questionnaire as part of their invitation. Poor initial responses due to school workload, an unfortunate clash with a postal strike, and poor initial data on contacts within the schools meant that the team needed to phone most of the 400 sites to chase responses. Several establishments also reported 'survey fatigue'; they refused to complete questionnaires as they feel they are over surveyed. This feedback is after the establishments have gone via

Becta for “star chamber” checking. The final responses to the online survey are shown in Table 3.

	Invited for online survey	Online survey responses	Visits/interviews	Case studies
Primary	170	28	5	2
Special	2	0	0	0
Secondary	124	24	14	4
Academy	28	4	1	1
College	13	7	4	2
Local authority	24	5	4	3
Adult community learning	32	6	1	1
BSF	2	0	0	0
Totals				
Target	200	60	30	13
Actual	395	74	29	13

Table 3: Establishment engagement by project phase

An example questionnaire is included in Appendix A.

The questionnaire responses were analysed and brief summaries generated. These were used as the basis of recommendations to Becta for site visits and therefore as possible case studies.

3.5 Case studies

A set of 29 case study candidates were selected based on results from the online questionnaire. These candidates were invited to take part in an information gathering site visit. The candidates were then further reviewed to identify 13 case study opportunities.

Information was gathered on-site through a series of structured interviews and an examination of any information on performance measures made available (see Appendix B for the site visit protocol).

Detailed information was collected from the ICT service team, the senior management team, and staff.

Information was collected to inform the case studies as follows:

- 'Fit' on managed services spectrum
- Level and scope of service
- Initial reasons for considering a managed service approach
- Actual procurement criteria
- Barriers overcome and how this was achieved

- Tangible and intangible benefits perceived (with evidence and impact where possible)
- Lessons learnt and issues identified, and
- Financial scope.

Information was also sought from selected Infrastructure Services Framework suppliers to further explore the reasons, rationales, barriers and issues aspects of managed services.

Thirteen case studies were prepared to a common template. The intention is for each case-study to be printable as two to four sides of A4 with the following structure:

- Background to the institution and its ICT provision
- Reasons for considering managed services
- Benefits expected and benefits gained
- Issues, challenges and barriers overcome
- Broad financial analysis.

Each case study is designed to be accessible to managers and leaders within similar establishments and is aimed at providing them with a real example of procuring their ICT provision through a managed service.

The coverage of the case studies across the scope of the establishments is detailed in Table 4:

Type of establishment	Number of case studies
Primary school	2
Secondary school	4
LA wide	3
Academy	1
Further education college	2
Adult and community learning	1
TOTAL	13

Table 4: Case study by type of establishment

Note: Two other establishment types were considered: special schools and BSF. Special schools are not listed as our enquiries found that the services taken were the same as primary schools. In discussion with Partnerships for Schools (PfS) and Becta it was agreed that it is too early to draw any conclusions from the experiences of BSF schools beyond that published elsewhere as part of broader BSF evaluation.

Cross case analysis

4.0 Site visits

This analysis is based on the survey returns from 74 establishments and 29 site visits. The review was conducted between October 2007 and February 2008.

4.0.1 Two classes of establishment

We interviewed two main classes of establishment: individual sites and multi-establishment managed services such as those procured by a local authority or cluster of schools. In total, 21 individual establishments were interviewed and eight multi-establishment sites were interviewed.

These two classes are explicitly referred to in the analysis below where differences arose. Specific comments for multi-establishment managed services are in section 4.12.

4.1 The managed service matrix

Table 5 below shows the 21 individual sites placed on the managed service spectrum. Multi-establishment managed services provided through clusters or local authorities are not included on this spectrum as they were considered in their context of an overseeing body.

The majority of sites visited (71 per cent) have outsourced all or most of their ICT provision (see Table 5). The most common mechanism for sharing risk is a service level agreement (SLA) seen in 52 per cent of sites. Only one establishment did not have a SLA.

The range of mechanisms for transferring risks increased in complexity with more significant outsources. As the size of the managed service increased, it was more common to see payment mechanisms introduced – usually in the form of service credits. The inclusion of payment mechanisms is becoming more popular and it would appear that this feature is becoming a standard element of most new large-scale (for most or all ICT provision) outsources. We only found two contracts that link educational attainment with service charges or bonuses to the provider.

There was also a tendency for the larger-scale outsources to include the transfer of personnel through TUPE. Responses in interviews tell us that where this had occurred, school and college managers understood this process both in terms of improving service quality and of risk transfer. In these cases, freedom from the management of technical personnel and the understanding that support was not dependent on one individual was often valued as a key benefit (see below).

In our sample, primary schools and colleges tended to outsource larger proportions of their ICT provision with secondary schools tending to outsource discrete aspects of their ICT provision – often through the local authority such as in the case of broadband.

Type of establishment	Number of case studies
Primary school	2
Secondary school	4
LA wide	3
Academy	1
Further education college	2
Adult and community learning	1
TOTAL	13

Table 5: The 21 'individual' sites placed on the managed service spectrum

4.2 Before the managed service

With the exception of brand new building programmes, all sites visited opted for a managed service to improve the quality of service of an ICT provision that was considered unfit for purpose.

A common picture emerged in all site visits of underinvestment in ICT prior to the introduction of the managed service. This was often compounded by the evolution of technical support roles and ICT management processes to a point where they were unclear or ill-defined. In some cases, school leaders did not fully appreciate the development needs of technical staff. There was also a tacit acknowledgment that technicians were not effectively managed with too much autonomy delegated without appropriate accountability. In many cases, a vision for the contribution of ICT to the overall mission of the school and the translation of that vision into practice was either missing or ineffective.

Typically, a catalyst event had occurred (a new build, Ofsted inspection, change in central policy, new headteacher arriving) and this resulted in ICT provision being highlighted as a problem. In all cases, technical expertise, responsiveness and 'customer focus' (for teaching staff and managers) were identified as key factors to be addressed.

4.3 The decision to adopt a managed service

4.3.1 Reasons for choosing a managed service

Figure 2 shows a summary of the ratings respondents to the online survey gave for a set of factors relating to the decision to outsource ranked by importance. The full set of results is in Appendix D.

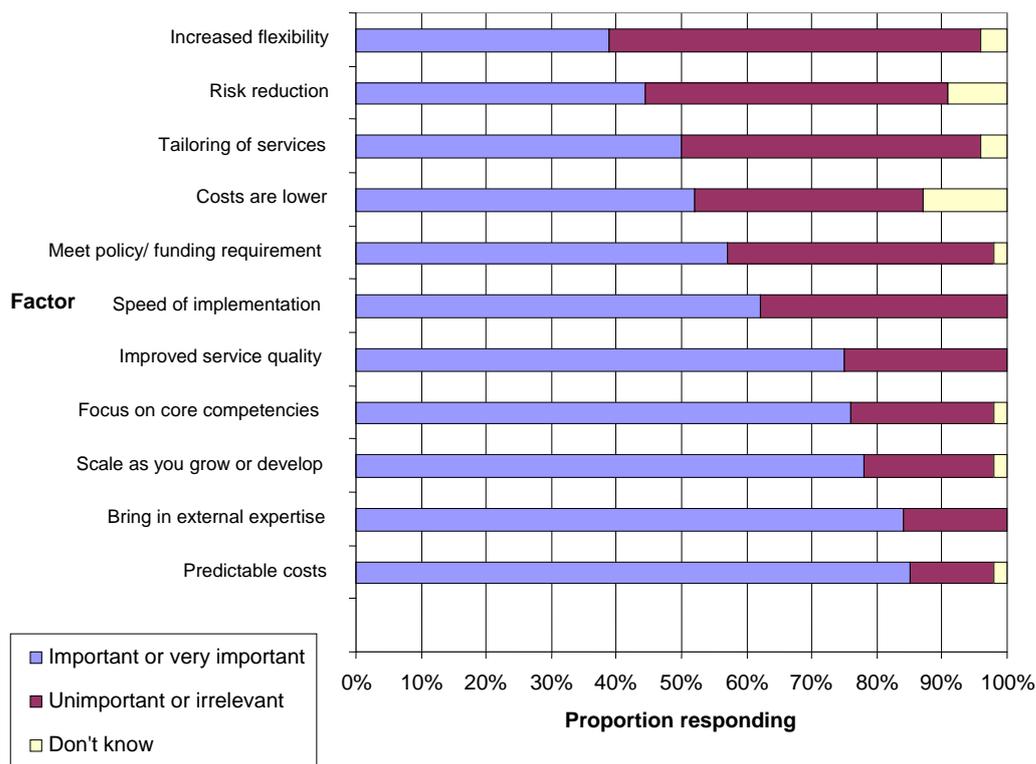


Figure 2: Reasons for adopting a managed service

It is interesting to note that while predictable costs ranks slightly higher than the need to bring in external expertise, the strongest responses (rated as ‘very important’) were for a need to focus on core competencies, the need for a scalable solution and the need for external expertise in both understanding requirements and delivering the service.

However, site interviews confirmed that the need for external expertise and an ability to focus on core competencies were valued the most by the majority of establishments. The need for a better level of service from technical support staff was also emphasised more during interviews than the survey data suggested. Interestingly, a scalable solution was rarely referred to during interviews, even after prompting, despite its high ranking in the survey.

During interviews, senior managers expressed the need to take greater control over the outcomes of their ICT provision and to better understand the contribution ICT could make to wider strategic ambitions. This is reflected in the high ratings for predictable costs which developed in interviews into a need to better understand costs. A number of factors combined when interviewees expressed views on this subject: a lack of control over ICT spend and unexpected costs in the past; a desire to move the risk of having to keep abreast of technology to the managed service provider; and a tendency to move towards longer-term budgeting. More predictable ICT costs were therefore seen as a way of reducing financial risks in other areas of school and college life, particularly in a changing policy and funding context.

Issues with control and predictable costs are linked to the lesser ratings for the lowering of costs and increased flexibility. Interviews informed us that these ratings reflect an acceptance of prior underinvestment in ICT. Furthermore, the way forward was often expressed as a need to define ICT requirements more tightly. Therefore, less flexibility equalled greater certainty for many of our interviewees.

The relationships between flexibility, the tailoring of services, the need to scale and risk management were often unclear during interviews. This suggests that these are areas for development in many schools and colleges.

Unsurprisingly, speed of implementation was only an issue when the opening of a new building was involved.

4.3.2 Taking the decision

In the majority of sites visited, a third-party with specialist knowledge (see below) was brought in to confirm the problems with the ICT provision and debrief senior managers. This external agent often played a key role in triggering change and hence this point represented a watershed in the establishment's understanding of its technological needs. In the more successful (and larger) managed services, this involved a formal audit and the production of a set of recommendations to senior managers regarding requirements. A lack of internal expertise or capacity to deliver was identified in every case we visited. The decision to outsource is then generally taken at this point.

The seeking of this expertise from outside the organisation to validate the present situation and clarify future needs is often the first stage of outsourcing: both expertise in framing educational goals as technological requirements and expertise in delivering ICT provision needs to be sourced externally. Therefore, it can be viewed that many successful outsources involve at least two service providers: one for self-evaluation, planning and procurement; the second to deliver the technology. Keeping these two roles separate was an important early strategy for some in reducing the risk of being biased towards any one potential technical service provider.

Although we saw no examples of their application, the use of standard or exemplar (ie Becta) functional and technical specifications for managed services would help to make this process more efficient and provide an additional reassurance of the objectivity of the requirements.

In the cases visited, the first role – evaluation and requirements definition – was taken by a number of people from a trusted colleague in another school through to a private consultant. In new building programmes, the local authority had a role in this process and often bought in the services of an independent consultant. All of the comprehensive (most or all ICT provision) managed service deployments seen involved a specialist independent consultant at some point. For schools, this is an indication that many local authorities lack advisers with deep experience in advising schools in this area beyond their own service offerings. All colleges expressed little choice or reservation about going to the private sector for this advice and viewed this as both necessary and useful given the budgets involved. Colleges are generally familiar with the use and appointment of private sector advisors for many other aspects of college development (property, HR, audit).

In the schools sector, decisions over the provider for discrete, smaller-scale managed services such as learning platform hosting and broadband provision tend to be taken by the local authority. This decision is often outside the control of the individual school – the LA provider is the default, historical provider and easiest option. This leads to greater variation in the reported satisfaction with these services (see below). A similar experience in schools was noted with management information system support. The more enfranchised a school felt, the more satisfied it was with the service.

In a small number of cases, schools had taken opportunities provided by new builds or one-off funding initiatives to improve their ICT. One school aligned the procurement of its managed service with its specialist status bid (Maths and Computing) to provide the impetus and strategic context for the service improvements. Another primary school took the opportunity provided by New Deal funding and a PFI initiative to include ICT within the project.

Further education colleges expressed greater autonomy over decision making than schools. However, they did report being more sensitive to competition and meeting the expectations of their customer base. Again, the decision to outsource was generally taken following a key event or catalyst and the external validation noted above.

In the vast majority of cases, the final decision to buy in a managed service is taken by the headteacher or principal on recommendation from a deputy and bursar. The role of governors was limited to scrutinising budgets and keeping a broad oversight.

4.4 Engaging with suppliers

4.4.1 Procurement approach

All of the larger scale managed service procurements were carried out through the OJEU process, either directly (i.e. an explicit OJEU procurement for an ICT managed service) or indirectly (ICT managed service procured as part of a larger procurement including, for example, the PFI project to rebuild the school). The Northern Ireland procurement was on a much larger scale, this was carried out in lots through the Becta framework. External advisers had been used in most of these cases to support the establishment through the process.

None of the individual establishments seen had used any of the other procurement framework agreements – Becta, G-Cat or the various purchasing consortiums available to education. Interviewees expressed little understanding or awareness of these frameworks. One had looked at the list of Becta Infrastructure Suppliers to identify possible providers but did not procure through the framework. (The Academy was a partial exception to this – they had worked closely with the Becta Academy team in preparing their specification.)

The managed services procured by or through local authorities had not generally been market tested against commercial or private sector alternatives – schools saw these as a decision to ‘opt in’ to an LA service rather than as a procurement. Where the LAs had themselves outsourced part or all of their service to the private sector these had been through either an OJEU procurement or through an OJEU compliant framework agreement (i.e. G-CAT or Becta).

Individual school procurements for smaller managed services had been undertaken through a local tendering process in line with local financial regulations. In these cases the procurements fell below OJEU threshold levels, although care will need to be taken to ensure that repeated renewals do not breach the thresholds.

4.4.2 Who to approach

There was some variation in the way in which different establishments approached and engaged suppliers. Primary schools tended to look towards their local authorities and regional broadband consortia (RBC) for both support and the provision of the service. Of the 31 primary schools responding to the survey, 15 have a service provided by the local authority or RBC. In contrast, of the 28 secondary schools responding to the survey only four had provision from their local authority with a further four reporting broadband services from their RBC as their managed service. All colleges surveyed got their services from the private sector.

4.4.3 Relationship between size and options

The most interesting observation relating to size was with primary schools. Smaller establishments, such as primary schools, have a more limited field of potential managed service providers to choose from. In interviews, primary school headteachers expressed this as a statement of fact. However, returns from the survey (see Table 6) show that most (approx. 75 per cent) of those answering the question thought that their size was not an issue. This contradiction can be explained by the schools' self-perception.

Response	Very important	Important	Unimportant	Irrelevant	Don't know	Grand total
Secondary	-	-	6	15	-	21
Primary	1	3	6	10	2	22
Further education	-	1	2	1	-	4
Grand Total	1	4	14	26	2	47

Table 6: Was your size an issue when approaching suppliers?

When asked during interviews, many primary school staff reported that they would not have considered approaching larger companies and limited themselves to the local authority or a local secondary school known to be able to provide the service. As one primary headteacher said, 'who would even consider looking at us? We are a small school...' The conclusion we have drawn (see above) is that the culture of many primary schools is such that they do not see themselves as financially attractive enough to medium and large commercial suppliers, but they are quite accepting of this. There appeared to be some evidence for this view: one supplier is developing models to support clusters of primary schools through secondary schools with an established service as a financially viable way of reaching the primary market.

By contrast, one further education provider with over 8,500 full-time equivalent students on roll considered itself 'small fry' to the large firm it had contracted – a company with a number of very large public sector accounts. However, this did not affect the college's final decision and it benefited from a wider selection of possible service providers.

Secondary schools would appear to have the largest choice of providers as they can access local authority services in addition to the private sector. Secondary schools we spoke to were often critical of the quality of local authority services with a poor perception of their capacity to deliver a full managed service of sufficient quality. This was often cited as a factor in the decision to approach the private sector. However, the presence of a commercial provider delivering those services on behalf of a local authority skewed this perception: only one of the five local authorities or clusters interviewed with a commercially provided service had a problem engaging secondary schools.

4.4.4 Criteria for short-listing suppliers

This section only considers criteria given from those sites choosing to buy significant managed service (network management through to a complete outsource with TUPE) from the private sector. As in most other cases (broadband, learning platform, management information system (MIS) support), the choice was limited to the local authority. Some primary schools also only looked towards the local authority for support (see above) – this limited their need for devising a specific set of short-listing criteria.

The only consistent message that came through was the desire for a company that would work in partnership to understand and help the school. The following quotes are a selection taken from the interviews:

- Wanted a company that could deliver a ‘step change’
- A pre-qualification questionnaire to check for due diligence and capacity to deliver was used
- We wanted a responsive service
- We looked for a small to medium size company to build a relationship and to be a valued customer
- Wanted support for ‘vanilla’ Windows install
- No hard-sell
- Joint problem-solving approach/ partnership, good to work with, good feeling, approachable...
- NOT price but value for money
- We wanted experience in managing the change process
- Structured training and career route for TUPE staff
- Experience in the education sector
- Access to broader skills, experience and expertise
- Someone who would proactively work with the school
- We wanted to remove the risks associated with using own IT staff such as staff leaving, difficulty of removing incompetent staff, and access to higher level skills
- The equipment that we had at the time was old and we had insufficient funds available to replace the quantity that needed replacing. Managed service helped us fund the replacement.
- ICT was identified as a critical business resource and we wanted to reduce the risks associated with the staffing element of the service.
- Part of a PFI contract for 25 years, including ICT ensured that the kit would be kept up to date via the PFI funds for the duration of the contract.

4.5 Contract age and length

Most managed service contracts in our sample are fairly new (the modal years in the survey being 2004 and 2007). However, the increase appears to start in 2003 (see Table 7).

Type	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
All ICT	1	1	1			1	3	2	1	4
Most ICT					1	2	1	2	1	2
Net management				1					1	1
Hosted services							1	1		
Hardware				1			2		1	1
Software							1			1
Broadband		1		1	2	4	2		1	1
Grand total	1	2	1	3	3	7	10	5	5	10

Table 7: Service start dates by type of service

The increase in 2003 can be partly explained by broadband services delivered from the regional broadband consortia coming online (see Table 7). The peak in 2004 cannot be explained from any observations we made either through the survey or from detailed interviews – the three individual schools' decision to take up a full managed service in 2004 appear unrelated. The number of schools canvassed does not afford generalisations to be made. However, there does appear to be a general trend towards more use of managed services across the decade.

Table 8 shows the length of contract against the year in which the contract began for the 42 sites giving this data in the online survey. Nearly half of the respondents had a one-year contract or one that they describe as 'annual' or 'rolling'. The other clear trend from the data is that the length of contract appears to be decreasing over the decade. This may well reflect a degree of maturity in the market for schools' managed services both with regard to the understanding of the risks and an associated business model from the suppliers and an increased level of sophistication from the demand side in negotiating contracts.

Start Year \ Length Years	Length Years								Total
	10	8	6	5	4	3	2	1	
1998								1	1
1999	1							1	2
2000	1								1
2001								2	2
2002								3	3
2003		1	3	1				1	6
2004			2		2	1		4	9
2005					2	2		1	5
2006					1	1	1	2	5
2007						3		5	8
Grand total	2	1	5	1	5	7	1	20	42

Table 8: Contract length by year

Further analysis (see Table 9) shows that the length of contract is generally proportional to the comprehensiveness of the service as we would expect. However, it is interesting to note that many schools reported their broadband costs as being 'annual' or 'ongoing' when in fact the contract with the broadband provider and the local authority or regional broadband consortia is for a fixed period.

Service Type \ Length Years	Length Years								Grand Total
	1	2	3	4	5	6	8	10	
All ICT	4		2	2		3		2	13
Most ICT	3		2	2	1	1			9
Net management	2	1							3
Hosted services	1		1						2
Hardware	1		2	1					4
Software	1								1
Broadband	8					1	1		10
Grand total	20	1	7	5	1	5	1	2	42

Table 9: Contract length by type of service

4.6 Costs

Only 14 sites out of the 29 interviewed were able to give us any indication of the impact on costs on the new ICT provision. The vast majority of sites in general felt unable to give meaningful comparative figures as the costs associated with ICT were so poorly understood before the managed service. Therefore, the evidence presented here is largely anecdotal and the conclusions that can be drawn are limited.

Most sites (seven of the 14 able to give any response,) reported that a managed service was needed to get better value from a planned large investment in ICT equipment. It must be stated that many establishments had not disaggregated the managed service element from the capital investment when considering these figures and were very reluctant to do so. They did not see the value in doing so, having accepted the problems noted above with regard to provision before the managed service.

Given the benefits cited above, the removal of the burden of day-to-day management of technical staff and the reframing of technological needs in line with educational needs, the evidence suggests that while all the managed service examples we saw gave good value for money, the larger-scale managed services (network management to full outsource) provide disproportionately more value for money. Evidence from Northern Ireland shows that very significant savings can be gained from the large-scale aggregation of managed services.

Most institutions now consider the increased investment reflects the true cost of maintaining their provision. I.e. they acknowledge that there had been a historical underinvestment in ICT. They rationalise this through the benefits they see reported. To this extent, it appears that for sites with larger scale outsources, the decision to outsource, and the procurement that follows, mark significant steps in the development of the e-maturity of that institution (see below).

The largest percentage increase we had reported was approximately 30 per cent. More experienced establishments (or those buying expertise) were able to negotiate better contracts. One college managed to cut its costs by 30 per cent when renegotiating contract with its existing supplier. Having had the service in place for four years, the college was much clearer of its needs and was able to manage issues that triggered further service charges more effectively.

4.7 Issues and barriers

Figure 3 shows a summary of the ratings respondents to the online survey gave for a set of issues relating to the managed service ranked by importance. The full set of results is in Appendix D2.

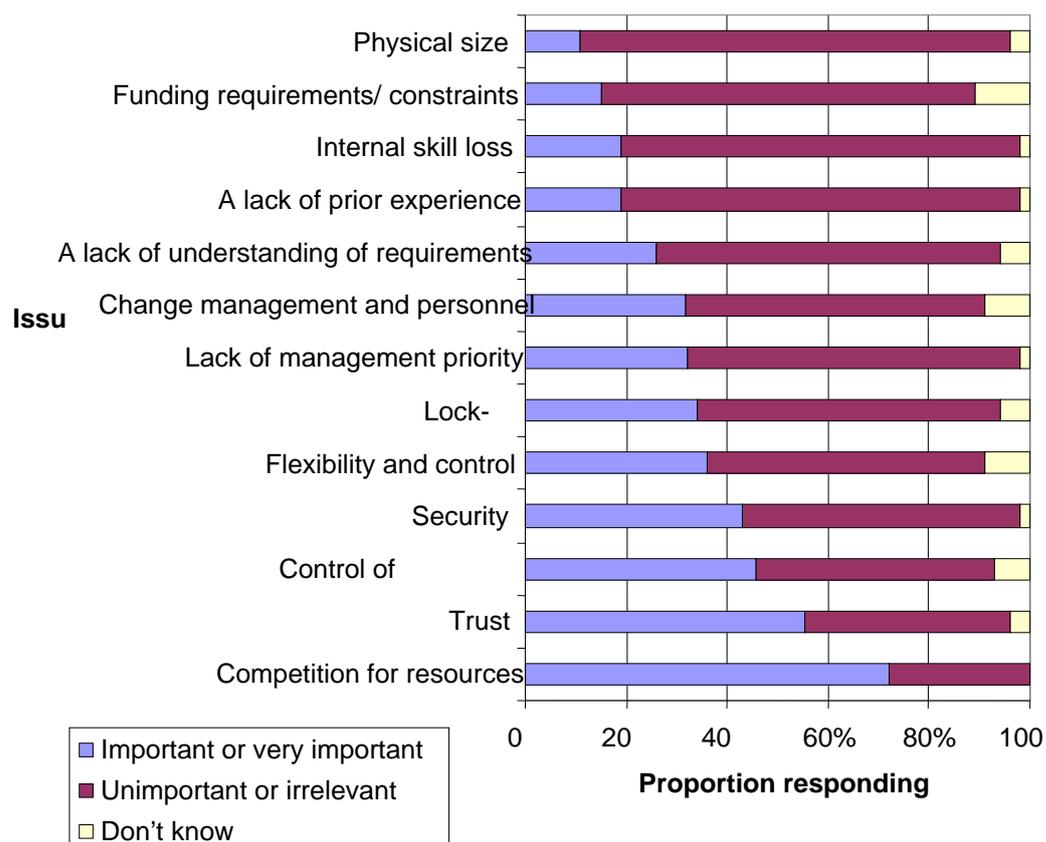


Figure 1: Issues arising from the managed service

As expected, competition for resources was cited as the largest issue. It is interesting to note that not understanding the requirements and a lack of prior expertise were not noted as major issues or barriers despite being significant factors in the original decision to outsource. Establishments saw this as a matter of fact and one of the areas that the outsource needed to address. Physical size has been commented on above as it relates to primary schools.

4.8 Productivity increases

During interviews, improvements in staff administration and better student motivation were most frequently cited as key benefits (Table 10). These resulted from better quality and availability of services. However, the most discussed benefit in

interviews was an increase in confidence amongst the staff. This confidence was felt to be the platform on which better learning experiences and more creative uses of technology were built. Increased confidence was cited as having the most impact on an organisation.

In the majority of cases, there was a tacit admission that the institution was not effectively managing budgets and ICT personnel before the introduction of the service. The managed service provider was able to meet that need. This factor is also closely related to the ability of service providers to bring in expertise and experience. When questioned, establishments often cited technical expertise as the benefit. However, managerial expertise within the IT systems domain is a key and often implied factor.

Benefit	Count
Student- motivation	19
Staff- admin time	18
Staff- morale	17
Student- e-safety	16
Student- choice of how and when	10
Student- choice of what to learn	7
Student- attainment	5
Student- less drop out/ absenteeism	2

Table 10: Productivity gains

Most managers reported that they are now able to confidently define ICT requirements in 'educational terms'. When asked to reflect, those managers with the most established outsources can now see that this change in itself also represents an increase in efficiency. They also recognised that this change resulted in greater management confidence and expectations for ICT.

Therefore, it is when these two confidences – pedagogical and managerial – combine that the greatest educational difference was seen to arise from the managed service. This typically takes about two to three years to emerge. However, full-scale transformation as outlined in the Government's e-strategy has not been seen in these visits. This may be due to the reasons originally cited for outsourcing: a key event, poor ICT management and low investment as opposed to a rationale based on transformation.

As one would expect, most sites found it very difficult to link improvements in educational attainment to the introduction of the managed service. When they did, it was often in specific areas of the curriculum (ICT and Science). However, no interviewees could give a clear causal link between improved student motivation and better attainment in their establishment.

Schools who describe improvements in outcomes link these to reliable and trusted ICT and are fairly confident in the causal link. In considering this, there is a need to separate the efficiency in ICT delivery through the managed service from the gains in student attainment through the availability of more ICT, that is more ICT being available as a result of the increased capital investment that often goes with a managed service. There is clear evidence from site visits that the reliability and support given by the managed service does add greater value in that more reliable equipment is used by more staff and more learners for more of the time.

4.9 Service targets improvement areas

The figures in Table 11 from interviews in individual establishments (not clusters or LAs) show a strong response. Those not answering the question or indicating N/A correspond to brand new services or new schools where no historical comparison could be made.

The table shows that nearly 80 per cent of those interviewed cited improvements in the level of service and those improvements were across the range of service areas.

One site indicated that fault resolution was worse. This establishment had broadband as its service and was unhappy at having to go through the local authority instead of going directly to the provider to report service outages. The respondent felt this added an extra layer of inefficiency that harmed the speed to response. Hence, this was in fact a comment on responsiveness not fault resolution.

Service area	Better	Worse	N/A	Total
Responsiveness	15	-	4	19
Reliability	15	-	4	19
Performance	15	-	4	19
Fault resolution	15	1	3	19

Table 11: Service area improvements

Interestingly, most centres could not quote specific targets from the SLA and many could not locate the document. The SLA only appeared to be an issue when significant problems arise. A couple of centres even discussed how the SLA had been suspended by mutual agreement in order to deal with exceptional circumstances – for example during enrolment week in a college with a new build. In both cases this was seen as evidence of a positive relationship between the centre and service provider.

The SLA plays an important role in creating the context in which the day-to-day service is delivered. However, there has been no evidence seen that the existence of penalty payment mechanisms affect the quality of the service

It does appear that targets and payment mechanisms are a useful negotiating device when there is a need to change the scope of the service for a short period of time or in response to an unforeseen or unplanned event. The supplier may agree to change the service if the institution agrees to suspend part of the SLA or waive some penalties. This can then be seen as gesture of compromise from both parties and can therefore work to support the partnership.

It is interesting to note that only one of the establishments visited did not have a service level agreement. In that case, the managed service was a hosted content product with an annual licence fee. In all cases, regardless of the scale of the managed service, an agreed SLA is an essential pre-requisite. The five cases we interviewed that had gone through a formal contract renewal or re-tender all reported that they were able to negotiate a far better deal through a new SLA. There is clear evidence from the experience of all those interviewed that there is a need for better quality guidance and support in setting up a SLA when first embarking on a managed service route.

4.10 Opinions and attitudes towards ICT after the managed service

Table 12 shows the responses to a set of standard statements aimed at eliciting the opinions of those interviewed on ICT provision and the managed service. Responses were of the form: agree strongly, agree, undecided, disagree, disagree strongly. 21 sites were questioned in this way.

Responses to these questions show an overall positive attitude and optimism towards ICT and the managed service with those staff interviewed.

The responses are consistent with the online survey and the detail given in face-to-face interviews in that most sites reported a significant increase in the reliability and quality of the service since the introduction of the managed service. Those that did not were reporting on smaller scale services (such as broadband) that were typically negotiated by a local authority.

Item	agree strongly	agree	undecided	disagree	disagree strongly	Number responding
I am confident that we can meet the technological needs of our students over the next three years.	8	10	2	-	-	20
Our students have access to the best resources we could provide them with.	9	11	-	-	-	20
We are able to meet the needs of more of our students now.	9	10	-	-	-	19
The current managed service locks us into a set way of working.	4	1	2	11	2	20
The staff are more confident about using ICT services now.	10	8	1	-	1	20
Students are accessing our resources when the buildings are physically closed.	4	7	1	2	5	19
The investment in ICT has reduced opportunities in other areas.	-	5	-	13	2	20
The current ICT service is more reliable than before the managed service.	11	6	2	1	-	20
Students expect to be able to use ICT for most of their work.	7	8	2	2	-	19
Staff use ICT to support learning more than they did in the past.	13	4	3	-	-	20
The introduction of the managed service has improved efficiency	5	11	1	1	-	18
New ICT provision has not fundamentally changed the way in which we work.	3	4	-	10	3	20
We have been able to drive through other strategic changes more quickly since the new system was put in place.	5	11	2	1	-	19
The managed service enabled us to focus on learning.	7	10	3	-	-	20

Table 12: Responses to statements

It should be noted that when respondents mentioned their local authorities in the online survey, the comments were quite polarised. They were either grateful of the support the LA had given in negotiating contracts and managing suppliers or they felt that the LA had removed some flexibility or imposed constraints on the school. A common theme with all those reporting positive views of their LA was a high level of communication (see above).

Looking at the positive responses with the least variation, it is clear that respondents feel they are providing their learners with the best resources they can, given funding constraints. This may correspond to the strong views expressed during interviews that choosing a managed service was the right choice. It may also illustrate a bias in the group as the respondents were often key decision makers in choosing the managed service route. It is interesting to note that the group were broadly optimistic when looking over the next three years. However, when asked at interview,

uncertainties over the future were attributed to external factors – most notably funding.

The most consistently positive message was an agreement that employing a managed service has enabled the senior management team to focus more on learning outcomes and teaching.

The other consistent message was that the new ICT provision had made ‘fundamental changes’ to the way in which they worked. When asked to give more detail, interviewees described these changes in terms of staff confidence and the increase in ICT use – both aspects that featured heavily during the interviews. These responses indicate that the reported changes are not as ‘fundamental’ as stated especially with regard to the wider aspirations of the Government’s e-Strategy. However, it is an expression of the relative size of improvement that those institutions experience within their own contexts.

4.11 TUPE and staff issues

From the 29 sites visited four had undertaken some TUPE transfer of staff as part of the managed service. In all cases there was a level of nervousness about this from both management teams and the staff concerned, and comments included:

“I don’t want to transfer and then just be moved around in a large company”

“We like our IT staff and they have a lot of local knowledge and we don’t want to see them transferred somewhere else and end up with someone we don’t like”

“They’ll just transfer us and make us redundant”

“We don’t want to just buy back the same staff at a higher price”

“We struggle to recruit and retain staff and I don’t see why they’ll find it any easier”

From the managed service examples there was little evidence of any of these issues actually materialising. A number of transferred staff commented that their career prospects were improved and, most consistently, that they were now receiving ‘real’ training. A couple commented that they preferred the more structured approach in which they now worked. Staff turnover had occurred but in most cases this had been managed effectively between the establishment and the supplier. We found no examples of redundancies from individual establishments following TUPE transfer.

One interesting model of staffing was identified in one of the colleges where technicians were retained on the college payroll but seconded to the service – minimising costs, transferring the management responsibility to the supplier, but retaining the risk of absence cover with the college.

Another innovative approach used college supplier and supplier- sponsored modern apprentices as trainee technicians.

4.12 Multi-establishment managed services

4.12.1 Types of aggregators

All multi-establishment managed services had an aggregator. The aggregation of services was only seen in the schools sector. The most common forms of aggregator were local authorities and regional broadband consortia. Two instances were seen where a secondary school had provided a means by which local primary schools could access commercial services. One interview was conducted with a trust supporting a group of academies.

4.12.2 Broadband and management information systems

All of the establishments interviewed acknowledged that broadband was provided as a managed service but chose to exclude it from their feedback. They all viewed broadband provision as a utility and accepted the means by which it was provided without adding further comment – to all intents and purposes it had become as invisible as other utility services. Fifteen respondents to the online survey cited broadband as their managed service. Only one reported being unhappy with the service they receive. The others reported being satisfied with their service with the main reason being the low cost for the quality of service given. Many responses from this group indicated that their contract was ‘annual’ or ‘ongoing’ and that decisions surrounding the service were taken by the local authority. This implies that there is some misunderstanding of the broadband contract and a lack of engagement with the procurement process amongst the group surveyed.

The most common exclusion from a fully comprehensive managed service was support for management information systems (MIS) as it was already provided by the local authority. Again, during interviews, establishments chose to exclude this service from their detailed feedback. When questioned, the separation of management information systems often revealed a different attitude towards the criticality of MIS to the running of the school. This arose from the importance of management information with regard to statutory reporting and communication with local authorities and a conceptual legacy from the days when administrative and curriculum networks were separate.

Evidence from our interviews suggests that many establishments view management information and broadband provision as being ‘mission critical’ – more so than curricular ICT provision. The way in which the provision and support for these services is embedded and often uncommented on is evidence of their success.

The benefits of having a common solution within the local authority or region were understood by those questioned in terms of technical support, reliability, interoperability and cost savings for both MIS and broadband provision. It was too soon to see these benefits in those schools where LAs were undergoing aggregated learning platform procurement.

4.12.3 The effect of size

The size of aggregation ranged from six schools to over 1,300 schools with 60,000 networked computers (seats) in the case of Northern Ireland. There appear to be two broad levels of size at which benefits occur: smaller scale aggregations from single digit numbers of schools to local authority-wide services; and regionally negotiated services such as broadband and C2K in Northern Ireland.

Small-scale and local authority sized services

The benefits of small-scale aggregation arise from the sharing of costs. This usually takes the form of spreading the cost of employment. This was the case in the two secondary schools each providing support for less than 10 primary schools. In these examples, the primary schools benefited from gaining more cost effective access to expertise and competence. The secondary schools benefited from the increased capacity within their own staff. When questioned, suppliers stated that the role the secondary schools played in engaging and coordinating the primaries, in addition to the grouping, gave the efficiencies they needed to give viable support.

This model of salary sharing was also evident in support services provided by local authorities where the costs of employing a team of technicians were spread amongst the schools. However, at the scale of the local authority, a greater range of services was offered with some degree of choice introduced for schools as to which services they bought. Local authorities were also able to offer more cost-effective specialised services such as technical and user support for management information systems. Support through a help-desk was also able to be offered through the local authority.

The above examples represent demand side aggregation – the commercially viable grouping of customers. Aggregation at the level of the local authority also provides some opportunities for benefits arising from supply side aggregation. Again, MIS support is the most visible with the benefits being a consistent approach to the use and collection of pupil data. Discounts in the procurement of hardware and software were also noted as benefits at this level of aggregation.

As noted above, it was too early to note the expected benefits of having a common learning platform across an authority.

A further supply side benefit was noted by some schools whose local authorities had engaged a commercial company to give technical support services. In interviews,

schools reported greater levels of customer care arising from the influence of the private sector. In addition, some services, typically web-based, were made available from other sites on the council's network such as libraries and care homes. However, the numbers seen were too small to generalise.

Regional services

There is evidence from regional broadband consortia and the Northern Ireland case study that aggregation at a regional level can provide further benefits. These arise from the sheer financial scale of the contracts and include system-wide improvements such as integration with JANET (UK) services. It should be noted that evidence we have seen from our investigation at this level is very limited.

In a review conducted on behalf of C2K in Northern Ireland, substantial cost benefits arising from aggregation on this scale were identified when compared to procurement at individual school and education board level (see case study). C2K's research found that suppliers see a break point for further discounts ranging from 1,000 to 30,000 seats. Whilst the lower figure is within the reach of many local authorities, aggregation at the higher figure gives access to larger, UK wide suppliers.

4.13 Managed services relationship to broader strategy

4.13.1 Self-review framework

A significant managed service (most ICT provision to full outsource) contributes to the following aspects of e-maturity as defined in the Becta Self-review framework:

- 7a-2 Sufficiency and suitability of resources
- 7a-3 Digital learning resources
- 7b-1 ICT supporting efficient working practices
- 7b-2 Technical support
- 7c-1 Procurement

In all cases of significant managed services the introduction of the service can be seen to make a positive impact on e-maturity. It is the level of senior manager (headteacher and principal) engagement in larger-scale outsources that provides a greater organisational impact and establishes the outsource as a significant strategic development. This can be contrasted with smaller scale services such as hosting provision and those negotiated for all schools within a local authority such as broadband where there may be less integration into school and college development plans.

4.13.2 The e-strategy

Managed services contribute to the Priority 6 action to, “Deliver a best value scheme for ICT infrastructure and services for education and children’s services”.

4.13.3 Becta’s strategic outcomes

A direct link between the managed service and the outcomes of the e-strategy as defined by Becta, 2007 could be seen in many of the individual establishments visited.

The process of auditing, requirements definition and engaging with service providers contributed to:

- 1.1 Leaders having the knowledge and skills to ensure technology for learning can be harnessed for the benefit of learners, and
- 1.2 Institutions and providers planning and managing technology for learning effectively and sustainably
- The managed service itself was seen to provide contributions in:
 - 2.1 All learners and practitioners having access to the appropriate technology and digital resources they need for learning
 - 2.3 Technology-enabled learning environments being secure, supported and inter-operable
 - 3.5 Improved child safety and child protection
- 4.2 More efficient management and administration of learning and institutions
- Establishments reported improvement in the following areas:
 - 3.2 Learners have increased motivation for engagement in learning

Case studies

5.0 Overview

These case studies offer an insight into the managed services each of these establishments have. They cover a range of services across a range of establishments and highlight benefits, issues and challenges both before and after implementing a managed service.

	Type of managed service	Start of service	Type of organisation
Primary schools			
Ben Jonson	Managed service for all ICT	2003	Primary school, 420 on roll
Firside	Managed service for all ICT	2006	Primary school, 300 on roll
Secondary schools			
Richard Lander	Provision of network management service.	2002	Cluster approach secondary school supporting 9 primary partner schools
St Olave's	Managed service for all ICT except SIMS.	2005	Boys grammar, 950 on roll
Whitecross	Managed service for all ICT and on site resource. Service level agreement (SLA) with payment mechanism.	June 2006	Secondary school 900 on roll
Ysgol Friars	Managed service for all ICT with a SLA.	September 2004	Secondary school 1200 on roll
Local authority wide			
St Helens	Managed service for all ICT and on site resource. SLA with payment mechanism.	July 2007	LA wide covering 70+ schools.
Tameside	Provision of network management service including visits from on site technicians with SLA	2000	LA wide covering 104 schools
Northern Ireland	Managed service for all ICT and on site resource. SLA with payment mechanism.	2001	Regional governmental body
Further education colleges			
Aylesbury College	Managed service for all ICT and on site resource. SLA with payment mechanism.	June 2003	6 th form/further education
Orpington College	Managed service for all ICT and on site resource. SLA with payment mechanism.	2005	6 th form/further education
Adult community learning			
Essex Adult Community Learning	Provision of a network management service with SLA.	2004	Adult community college
Academies			
Northampton Academy	Provision of hosted services, such as learning platform, email and provision of network management service	Jan 2006	Academy with 1400 on roll

5.1 Orpington College

By fully outsourcing all its ICT provision, Orpington College has seen a dramatic improvement in reliability which has given staff the confidence to embed ICT in teaching.

Key facts

Type of establishment: College of further education

Size: 2000+ full time 16 to 18 year olds with over 4000 adults

Type of managed service: All curriculum and administrative ICT provision and service

Risk mechanism: Service level agreement with performance penalties

Transfer of staff? Yes

Key benefits

- Improved staff confidence leading to a substantial increase in the way technology is used to support learning
- Greater management control over ICT provision with less time spent on resolving problems
- More reliable provision with better levels of support
- Access to a greater breadth and depth in technical expertise with clear programmes of training and career development for support staff.

Background to the institution and its ICT provision

Introduction

Situated in the London Borough of Bromley, Orpington College has been providing education and training for over 30 years. The college currently has around 2000 16-18 year old students on roll, and serves a further 4000 adults. Courses range from basic skills and GCSEs to degree level. In 2005, the college outsourced all aspects of ICT provision which had, until that point, been provided for in-house.

Background to the ICT provision

Over the years, the college had developed two independent networks serving curricular and administrative functions. Network management time and resource was spent keeping these poorly integrated networks running with little time being available for strategic planning. Levels of support and the quality of the service were often compromised by the need to keep the existing services available.

The management of IT support had evolved to a position where it was often difficult to establish true accountabilities. Measures of success and the impact of the service were not developed; it was hard to identify the return on the investment in technology.

Reasons for considering a managed service

The impact of poor provision

Poor levels of service and an unreliable network resulted in little confidence amongst the staff. This was evident in the lack of consistent use of technology to support learning across most teaching areas. Furthermore, the requirement to establish an information and learning technology strategy and a planned expansion programme forced the college to rethink the way in which it was supporting learning through information technology.

The decision to outsource

The decision to outsource the ICT provision was taken early as senior managers felt it was important to bring in external expertise and a fresh perspective on customer support. After approaching the commercial sector, a suggestion came back that the college might benefit from the services of an experienced procurement specialist before going out to tender.

Seeking advice and understanding the current position

This advice was taken and a procurement specialist was identified and enlisted. The specialist was able to help the college to clarify a vision for information technology within the context of the broader college aims. They audited the existing provision and worked with senior managers to identify why problems had arisen. They were then able to support the college through the whole process of specifying the support needed and procuring services from the commercial sector. Enrolling this support was a key element in the future success of the outsource solution. The college was able to use this expertise to ensure that potential suppliers were offering services that really met its needs and that were in line with market prices.

Approaching suppliers

The college went out to tender with more confidence and a greater understanding of the support and services they needed. Key criteria for short-listing were companies with:

- a culture of customer services
- who were able to help develop ICT technician apprentices who were already being developed by the college
- and a good track-record within the education sector.

A formal method was used for evaluating tenders, and following presentations to a panel including corporation members, a supplier was chosen.

Benefits

Expected benefits

The college expected to see improvements in service quality and they experienced the culture of the provider with a clear emphasis on customer care from the start. The college was also able to benefit from the range and depth of expertise found within the company; problems were resolved quickly and experience of a wider range of technologies and support processes was drawn upon.

As expected, the senior leadership team were spending less time discussing and dealing with technology issues. Regular meetings between the service managers and the senior leadership of the college ensured that a planned and systematic process was in place to manage ICT provision. Crucially, measures of service quality and success were presented and discussed that allowed the college managers to focus on outcomes, leaving the service provider to deal with the day to day management issues.

As confidence amongst teaching staff improved, it was noticed that technology was being used more and more. The college was later able to develop more formal processes for embedding technology in learning through training and appraisal processes across all teaching areas. Confidence also increased to the point where senior staff felt secure enough to embark on a further programme of embedding technology, such as providing interactive whiteboards in all teaching spaces and the development of a professional development centre for staff. The use of a learning platform is being developed to support links between the classroom and home.

Greater management control

In the six months to a year after the service was introduced, a senior member of the college stated that they actually felt they had gained more strategic and operational control over technology. This has resulted from:

- being able to frame educational needs in the language of service provision, not technology
- being comfortable with the metrics and measures through which the service was monitored
- an understanding amongst the staff of the new ways of working with ICT support services
- having a clearer understanding of the projected spend for maintaining the level of ICT provision

- having access to a broader range of experiences, expertise and technologies through the service provider
- being able to take advantage of the size and position of the provider when negotiating with suppliers.

Many of these benefits were not foreseen at the outset. However, senior staff now value these benefits highly as a direct result of the decision to outsource.

Greater confidence

Overall the introduction of the managed service and the resulting confidence and management benefits have been an important factor in enabling wider strategic changes in culture and growth. Staff morale has improved with one member commenting, “you don't have that awful feeling when walking into a classroom and wondering if it (ICT) is going to work.”

Investing in ICT

The college now has a much clearer understanding of the costs associated with ICT. Introducing the managed service increased the capital spend on ICT by more than 20 per cent. However, the benefits received are seen as good value for money and senior managers now consider ICT spend to be appropriate. As one manager put it, “it is about where it should be now.”

Issues, challenges and barriers overcome

Overcoming issues

There were a number of issues that the college had to address before, during and after the introduction of the service, the first being the competing demands on resources. Very senior staff and governors needed reassuring over the financial commitment and some had reservations around being locked-in to one supplier. However, there was recognition that the current service was proving a barrier to the college realising its strategic aims, it was understood that there would be a need for greater investment in technology to overcome this, and it was agreed that external expertise was needed.

The role of the procurement specialist was important in the early stages. By reviewing and auditing the existing provision, managers were able to get an objective description of the existing provision in relation to current practice across the sector. They were also able to gain a clearer understanding of its impact on teaching and learning.

Drawing on expertise and building trust

Issues around trusting the commercial sector and the lack of previous experience in this area were dealt with by employing the procurement specialist. Again, the specialist was able to clarify the college's specific requirements – a factor which had been an issue when the college originally approached the market.

Managing change and personnel

Managing the process for the existing technical staff was a challenge as it involved TUPE. It was therefore important when short-listing potential providers to ensure that they had a clear and structured development path for any staff who might be transferred and that the views of those staff informed decisions.

This staffing aspect also impacted on wider morale. The body of the staff went through a cycle of initial optimism over the decision to bring in external expertise, followed by uneasiness during staffing negotiations and finally optimism again once the new provision was in place and working (about six months after the introduction). Open communication, union involvement, and the opportunity for all to have their voice heard were important factors in managing this process.

Transition planning

Some unexpected issues arose during the transition phase. A short time-frame in the lead up to the service going live resulted in more resources being needed to address problems. With hindsight, managers would have allocated more time and detailed planning to the transition phase which would have included very detailed steps to migrate the system.

Outsourcing unsatisfactory provision requires that it is corrected before the final level of service is established. It can be easy to underestimate the scale of this step. Early planning and communication with the provider is key to ensuring that this process is well understood. Working in a spirit of partnership with your provider is also vital as you begin to share some of the risks and costs arising from the existing system.

Looking forward

On reflection, the college is very pleased with the decision to outsource its ICT provision citing vast improvements in reliability, access to resources, efficiency and confidence. Furthermore, there is a feeling that it has helped to provide a platform to drive through other strategic changes focused on learning.

The managed service is now well established and the college is very happy with the service it receives and the ongoing relationship with the provider. Management meetings are now less frequent and processes are well embedded and understood by staff. The managed service provider has been able to give advice and guidance

to the college and has also been able to use its position in the market place to gain good prices on new equipment on behalf of the college.

However, advice given to others considering a fully managed service is: “to be committed to it and not to embark on it with any lingering doubts. It is important that a true partnership is developed and to look for a company who can provide that”.

5.2 St Olave's Grammar School

Choosing to outsource ICT provision allowed St Olave's to acquire a high quality, reliable infrastructure that meets the needs of a modern curriculum.

Key facts

Type of establishment: Grammar school

Size: 950 on role

Type of managed service: All curriculum and administrative ICT provision and service

Risk mechanism: Service level agreement with performance penalties

Transfer of staff? Yes

Key benefits

- Access to external expertise gives a clear escalation path when technical issues cannot be solved on site
- A focus on core competencies allows senior managers to increase their strategic control over ICT
- A service that grows with the school arose from a good working partnership and has resulted in a flexible service that has been able to meet the developing needs of the school
- Better outcomes for students through better access to resources giving an increase in attainment
- Teachers spend less time dealing with ICT problems in class.

Background to the institution and its ICT provision

Introduction

St Olave's is a boys' grammar school based in Orpington, Kent. Having over 950 pupils on roll at present, the school's history dates back to 1571. It moved to its present location in 1972.

Background to ICT provision

Before the decision was taken to outsource the ICT provision, the school managed its computer networks in-house. A teacher had sole responsibility for curricular ICT and the maintenance of the network.

Reasons for considering a managed service

The impact of the existing provision

As demand and expectations for ICT increased, in line with national developments in educational ICT, a number of problems became apparent with the way in which the school was administering its ICT provision:

- A lot of support time was spent 'fire-fighting'. Problems frequently arose with the stability of the network that took a long time to resolve.
- The lack of specialist expertise within the school resulted in large sums being spent on consultants and other specialists brought in to fix problems beyond the scope of school staff
- The provision was dependent on the knowledge and availability of one person. A failure of the system during a period of illness resulted in no ICT being available for two weeks.
- ICT was simply not being used effectively to support learning across the curriculum. Teachers frequently became frustrated when using ICT and could not rely on its availability.

Having identified ICT as an area in need of significant development, the school took the decision to include computing as an element of its specialist status bid. This gave the school a specific goal to aim for in improving its ICT provision and aligned this improvement with the key strategic aim of the school.

The decision to outsource

The decision to outsource was not immediate and was taken after some careful self-review, consultation and analysis. It arose after seeking expert advice and a reorganisation of responsibilities for ICT.

Seeking advice and understanding the current position

The headteacher took the decision to seek expertise from someone with experience of providing ICT services in the commercial sector. A permanent position was created and advertised in the specialists computing press. The rationale for this was the desire to bring experience of managing ICT in a pressured context into the school. Specifically, this meant a person with the skills to translate 'business' objectives into technical requirements combined with a customer service focus as opposed to a technical expert. There would also only be one school employee with an ICT brief: the ICT development manager. This post reports directly to the headteacher.

Upon appointment, the first year was spent performing an audit of ICT provision, visiting other schools and developing a strategic plan for ICT. Outsourcing ICT provision was a key outcome of this.

Approaching suppliers

The audit identified the following priorities for the outsourced service:

- A better service with more reliable hardware, a consistent installation, and better access to support
- A service that was based on standard industry best practice as opposed to propriety and bespoke items of software
- A clear escalation process for faults and service issues
- A relationship that gave school managers oversight and control without having to manage the detail of technical provision
- A flexible contract with no long-term tie-in, no reliance on any one member of staff, and the capacity to draw on greater expertise when needed.

Some of the criteria above were established to avoid the possibility of being locked in to one provider.

Broad financial analysis

The move to the managed service reflected a period of increased investment in ICT of the order of about 15 per cent on the revenue costs. The introduction of the service has not impacted significantly on capital costs as the additional money went towards the new post described above and the introduction of the maintenance service.

There was a capital investment in new hardware following the award of specialist status. In 2005, there were about 80 workstations giving a pupil to computer ratio of about 1 to 11. By 2007, there were over 215 desktop machines and over 470 laptops at the school, giving a pupil-to-computer ratio of 1 to 2. Most teaching spaces have also been equipped with an interactive whiteboard and projector.

The school views the increased costs as representing good value for money given the benefits gained. As a result of a more stable system and the availability of technical support, the amount the school has needed to spend on external consultancy had reduced dramatically since the introduction of the managed service.

Benefits

Expected benefits

The school expected to see a number of benefits from the outset. These included a more reliable service and less 'fire fighting' to solve problems. As expected, the

school did not have to hire additional specialists at extra costs and less time was lost in lessons due to network problems.

The provider they had chosen was also able to begin tailoring the provision to the school's strategic needs as hoped for. This process of engaging with the schools development helped to foster the partnership between the school and provider.

Access to external expertise

Having access to external expertise is a significant benefit for the school. There is now a clear escalation path when technical issues cannot be solved on site. Not only has this reduced unplanned consultancy fees, it also gives the school quicker access to very specialist skills whilst maintaining someone on-site with the breadth of skills needed to keep the system running.

A focus on core competencies

Senior managers have increased their strategic control over ICT. The budget for ICT is now predictable and more controllable. Teachers are spending more time in lessons teaching as opposed to working around an inconsistent and unreliable ICT. This has had a measurable impact on morale; confidence in using ICT to support learning has improved.

A service that grows with the school

A good working partnership has developed between the school and the provider. This has resulted in a flexible service that has been able to meet the developing needs of the school. The provider has been able to integrate other strategic programmes such as a learning platform, web-hosting, specialist music equipment and a laptop scheme for sixth form students into their support programme.

The school becomes a service provider

The school has worked with its managed service provider to offer a cluster of six local primary schools an ICT managed service as an extension of their own service.

This service arose from an enquiry by a primary school headteacher that lead to a discussion with the service provider about ways of supporting smaller schools. The result was that the secondary school has, in effect, been able to aggregate primary school demand to a level that is feasible for the supplier. Primary schools near St Olave's now have an additional choice when considering support for their own ICT provision.

Better outcomes for students

The service provider worked with the science department to put Year 9 support material online and log the usage. Support technicians were able to integrate the learning platform with both the school's network and the website giving a more seamless experience between classrooms, study spaces and home. The head of science reports a significant increase in the science SAT results that is attributable to this initiative.

The network is more secure and access to the internet is monitored, filtered and logged more effectively.

Issues, challenges and barriers to overcome

Overcoming issues

The school needed to overcome a few issues both before and during the introduction of the managed service. Fears mostly centred on being locked-in to one provider and losing control of the system.

Reducing lock in

From the outset the school wanted to ensure they were able to cancel the service as easily as possible. This meant reducing the costs of either switching to another provider or bringing the service back in house at a later date. For this reason the school decided to opt for standard equipment with standard items of software. This decision was taken before the introduction of the managed service and became a requirement when going to tender. The network was configured using recognised best practices and the school made sure that documentation was complete and up to date.

Management processes are in place to ensure that this discipline is ongoing. Relying on standards also increases the size of the pool from which future support can be gained.

Ensuring flexibility

The other key element in remaining flexible was working to ensure a good relationship between the school and the provider. The provider needs to understand the school's requirements and future intent.

Looking forward

The school is looking forward to developing the use of its learning platform and further integrating this into teaching practice. A scheme is in place to procure and support laptops for students that may be extended beyond the sixth form. The

school is also looking now to strengthen the support it is able to give primary schools through the managed service provider.

Staff at the school feel confident that the progress they have made, and the plans they are able to make, directly result from the decision to outsource.

5.3 Whitecross High School

A new build provided an opportunity to outsource ICT provision to allow teaching staff and managers to focus on raising standards.

Key facts

Type of establishment: Secondary school

Size: 900 on roll

Type of managed service: All of the school's ICT provision excluding the management information system

Risk mechanism: Service level agreement with payment mechanism

Transfer of staff? Yes

Key benefits

The system was implemented and technical support staff are kept current with the pace of change in technology:

- A customer service culture results in better service for teachers and pupils
- The school is better able to focus its energy on raising standards
- Costs for ICT are better understood and future spending can be planned
- Access to specialist expertise from the managed service provider reduces the need to buy in specialists for specific issues.

Background to the institution and its ICT provision

Introduction

Whitecross High School in Hereford is a specialist sports college with over 900 pupils on roll. In June 2006, the school relocated to a new building financed through a PFI programme. The school is now settled in its new environment and continues to focus on raising standards across all subjects. The school gained the Investors in People Award in 2006.

Background to ICT provision

An Ofsted inspection in 1999 judged the school to have serious weaknesses. ICT was flagged up as one of the issues in need of urgent attention. Despite problems with the accommodation, the school began to invest in ICT and developed a sound network that was supported by a competent network manager. The system grew to meet the needs of the school within its context, accommodation and the then priorities for school improvement.

Reasons for considering a managed service

The decision to outsource

Senior managers understood that the role technology would increasingly play within the school required a larger, more structured technical support system than they could provide in house. The proposal for the new school building provided an opportunity to revisit the way in which ICT was provided across the school. The headteacher wanted academic staff and managers to focus on the raising of standards rather than the administration of support activities. The new build also gave the school the opportunity to revisit roles and accountabilities with respect to focusing on better outcomes for children. Therefore, the decision was taken to include ICT in the bid for the new premises.

Seeking advice and understanding the current position

The new headteacher sought advice from others who had gone through the ICT outsourcing process within the context of a PFI new build. Specialist advice was brought in. These advisers were able to help the school through key points in the process, including establishing a clear vision for ICT and developing a set of requirements that were suitable to be included in the bid.

Approaching suppliers

Suppliers were approached through the company providing the building work. The school liaised closely with the LA to shortlist and agree on a final provider. The school decided that it wanted to work with a company who was focused on solutions rather than one who could provide a standard set of products. It was also important that the employment of the support staff was transferred successfully and that any winning bidder was able to provide a clear programme of professional development for these members of staff.

The eventual supplier had, at that point, relatively little experience in the education sector. Managers within the school were confident in their own understanding of their requirements; their level of technical knowledge was good. By engaging with a third party with expertise outside of the education sector, school staff became exposed to other ways of working and had some of their own preconceptions challenged. The school greatly valued this dialogue, and the fresh perspective the company was able to bring, as it helped to refine their overall vision for the school.

The school sought to manage the process so that it minimised the impact on day-to-day teaching:

- A deputy head was assigned to lead the ICT developments and report back to the headteacher. ICT formed an intrinsic part of the new build so

managing the implementation of the ICT service was a full-time job in the year leading up to the introduction of the service.

- The head of ICT was assigned solely to take care of teaching and learning in ICT
- A designated governor had an overview as part of the group managing the PFI bid
- External consultancy was brought in to help manage the process as it directly impacted on employment conditions of some staff.

Benefits

Access to expertise

The school has benefited from the extra expertise of the managed service provider. This was helpful in reviewing the ICT vision for the school and continues to be important when resolving difficult issues and problems that sometimes arise. The company is able to draw on expertise internally and is able to liaise directly with suppliers on the school's behalf when technical issues need to be resolved. From the school's perspective, the service provider is the single point of contact for all ICT issues and problems.

Improved levels of service

The customer service culture of the managed service provider provided an immediate benefit. In the past, when staff had a problem with the ICT it was often described as a training issue; the problem lay with the user, not the system. The new culture results in support staff actively working to help staff. They are proactive in identifying potential issues. The school had benefited from a reliable network and this has continued throughout the managed service contract.

Focus on core competencies

School managers are able to focus more time on raising standards. There is confidence that the system will work and that people are actively working to ensure its continued operation. Management and personnel issues are dealt with by the service provider. This has removed a level of burden from senior managers, for example, staff recruitment and training. The headteacher is able to liaise with the service provider on issues surrounding quality of provision rather than having to deal with the technical details. Measures of quality are clear, understood and reported on.

Speed of implementation and the pace of change

The managed service provider was able to draw on wider resources to deploy and configure the network. They are able to ensure that their technicians are kept abreast of current developments and have structured training opportunities that they

are able to bring back to the school. The school also has a partner to which it can turn for advice and guidance on technical issues.

Broad financial analysis

The headteacher estimates that the managed service provides a cost saving of about 10 per cent for both the capital and revenue elements of the ICT budget when the wider benefits are factored in. In particular, revenue savings arise from having access to the high levels of technical expertise that are needed infrequently without having to employ someone with those skills full-time or buy that expertise in through consultancy.

The overall spend on ICT has increased in line with the school's vision for ICT but costs are now much more predictable. Furthermore, the headteacher believes that the service provider has more leverage when negotiating prices on new equipment.

The provider they have chosen uses industry standard technology and software. This helps to ensure that the skills needed to support the school's provision are in good supply and reduces the costs of switching to another provider if that situation should ever arise.

Issues, challenges and barriers to overcome

Overcoming issues

From the outset a number of issues needed to be resolved. These mainly arose from the lack of previous experience in dealing with commercial providers and the sheer volume of work needed to realise a new school build and integrating ICT requirements into key points of the design and build process.

Bringing in experience from outside

Despite being confident in their technical capability, the school recognised its lack of prior experience in defining requirements and dealing with the commercial sector. By using external consultancy at key points – the visioning and specification and the dialogue over transfer arrangements – the school was able to ensure that it had an advocate.

Maintaining control over the outcomes

Before engaging the managed service provider, there were concerns over handing delivery of the vision for ICT over to a third party. Through working in partnership and by establishing processes for regular dialogue it was possible to ensure that the school remained in control. Service targets were designed to reflect the priorities of the vision, to give hard measures of progress, and provide an account for the financial spend.

The time between specification and implementation

Being part of the new build inevitably meant that the timescales were quite long between specifying the ICT provision and its eventual deployment. This introduced the risk of technology moving on and prices changing dramatically between specification and the final installation. The proportion of spend to be allocated for ICT was set based on a draft specification made in 2003 and 2004. However, the final ICT specification was not made until 2006. It was therefore important to benchmark the proposed spending as a proportion of the total costs against other examples from the education sector. High level strategic aims needed to be as technologically neutral as possible and phrased in the language of educational, developmental and social benefits for the students. This provided a framework in which specific items could be procured at a later date whilst still being aligned to the original vision for the school.

Looking forward

The school is very happy with the ongoing relationship with the provider. The headteacher meets monthly with a manager to discuss service targets and measures and describes the relationship as a partnership. The service provider has been able to use its leverage with equipment suppliers and secure better prices for the school. The provider has also been able to introduce the school to new technologies and equipment.

The school is now looking to work with its partner to lease and maintain laptops for students. Plans are afoot to make better use of videoconferencing and links have been made with a school in India. The managed service provider is actively working with the school to establish access to digital resources from home.

On reflection, the headteacher says, "I would definitely do the same again. But you need to go into it with your eyes wide open." Seeking external advice and clarifying the school's needs at the start of the process was a key element to the success of the final outsource.

5.4 Firside Primary School

Employing a managed service allowed this primary school to deliver a step-change in its approach to ICT.

Key facts

Type of establishment: Primary school

Size: 300

Type of managed service: Managed service for all ICT provision including hosting, admin and curricular resources

Risk mechanism: Service level agreement

Transfer of staff? No

Key benefits

- Equal access to resources - giving all staff and pupils access to technology ensured fair access to learning experiences
- Better progression - access to resources and more confident staff helped the school to ensure better progression in ICT as pupils moved through the year groups
- Flexibility and control - the managed service allowed the senior management team to focus on ICT developments in terms of outcomes for the school as opposed to dealing with the technical issues.

Background to establishment and its ICT provision

Introduction

Firside Primary School is a mixed, two-form entry primary school serving the Hellesdon area of Norwich. The school was first established in the 1930s and has gone through a number of transformations from being a secondary modern school, to middle school, and now a primary school. The school has had a managed service supporting its ICT since 2004.

Background to ICT provision

Before the introduction of the managed service, ICT had been maintained by the ICT co-ordinator based at the school. This was a full-time teaching post and the ICT equipment was based in the ICT co-ordinator's classroom. This arrangement had a number of implications. The ICT co-ordinator used the resources much more than other members of staff. This meant that pupils at the schools were not getting the same entitlement to ICT. Furthermore, it imposed limits on the experience other

members of staff could gain in improving their confidence and competence in using ICT.

The school called in support from the local authority when problems arose that could not be fixed in-house. This could result in unexpected bills and lead to equipment being out of use for long periods of time.

Reasons for considering a managed service

The decision to outsource

Following an Ofsted inspection that was critical of the progress pupils were making in ICT, the school began to draw plans to improve ICT provision. This involved reassigning responsibilities and looking for ways to make ICT more accessible for all pupils and staff. It was clear that the specialist skills needed to maintain a modern school network were now beyond the capability of members of the teaching staff. Furthermore, the gap in skills would only widen as the expectations and demands put on technology continued to increase.

Seeking advice and understanding the current position

The Ofsted report had indicated areas for improvement in terms of the impact the current provision was having on pupils. The next stage was to consider how to translate those needs into a plan to deploy and better use technology.

The headteacher first sought advice from the local authority to discuss support that could be provided centrally. The school also benefited from the experience of others in their local cluster of schools. On taking advice from the county council and from colleagues from across the cluster, the decision was taken by the headteacher and the governing body to allocate capital funding into the building of an ICT suite.

The installation and support for the new ICT suite was provided by Norfolk County Council through a managed service. At the beginning, the council was able to work with the school to specify, procure and install the equipment. This service enabled the school to get regular support from a technician who understood the needs of schools and who was also familiar with wider ICT developments across the county council. The council offered the services in such a way that schools could choose to opt, and pay, for specific elements of that service according to need.

Broad financial analysis

The managed service represented a new cost for the school as support was previously given from a member of the teaching staff. However, buying support in the form of a managed service from the local authority resulted in the school only paying for the pro-rated cost of the technician's salary. As this expertise needed to

be brought into the school regardless of its source, the managed service option proved to be the most cost effective way of getting support.

Choosing the managed service removed the burden of recruitment and line management of a potential technician. The school did not need to employ a full-time technician. Gaining support in this way provided a route by which other schools in the authority could share costs without needing to negotiate terms amongst themselves. Without the local authority providing aggregation in this way, the school would have struggled to find high quality technical support within its budget.

The vast majority of the extra investment in ICT was in the form of capital purchases for ICT equipment and its installation. After three years, there was a second wave of investment that saw the deployment of interactive whiteboards, projectors and teacher laptops in every classroom.

Benefits

Expected benefits

In the first instance, the school wanted a platform that would ensure that all pupils were getting appropriate access to ICT and were able to develop their skills. The development of the ICT suite physically enabled this. However, the managed service ensured that the equipment in the suite was installed quickly, set up correctly, and staff had access to technical support when taking pupils into the room. The room was set up over the summer holiday period and was ready for the start of the new school year.

Equal access to ICT

A well set-up, consistent and maintained approach to ICT across the school ensured that the system demanded less technical skills and know-how from the users. This gave more staff confidence to use ICT and hence became a significant factor in giving both equal access and developing wider staff confidence in ICT.

Without this reliability, the success of the suite and the confidence to further invest in ICT would have been jeopardised. If all staff were to be given an expectation of using ICT, then unreliable equipment would have caused a problem for morale. Therefore, to ensure equal access for pupils meant removing barriers for staff to use the equipment. The managed service removed a significant barrier.

Better progression

An issue of progression in ICT had been highlighted and needed to be addressed. As pupils were having variable access to ICT, and not all staff were teaching the ICT programme of study, the school could not always ensure progression in pupils' ICT capability. By removing problems with reliability, and allowing greater access to the

equipment, the managed service played an important role in this significant area for school development.

Flexibility and control

The managed service allowed the senior management team to focus on ICT developments in terms of outcomes for the school as opposed to dealing with the technical issues. This marked a significant development in the leadership team's capacity to plan and drive forward the use of technology to support learning as they were now able to have a conversation with a service provider about needs. The worry of how to deliver those needs was now not an issue for the school. This gave staff, leaders and governors the confidence to embark on a programme of investment in ICT, including the networking of all classrooms and the installation of interactive whiteboards and projectors in each room. The knowledge that the equipment would be supported ensured that greater value for money would be achieved from this investment.

Issues, challenges and barriers to overcome

Competition for resources

The issue for the school was the need to provide better access to ICT. Therefore, the major financial cost was in ICT equipment. As this area was identified as a whole-school priority, funding needed to be allocated towards it. The managed service ensured greater value for money was achieved by providing access to technical skills in proportion to the school's needs and by ensuring that the equipment was maintained and staff supported in its use.

Reviewing responsibilities

The managed service removed the responsibility of hardware maintenance from the existing ICT co-ordinator. This resulted in a change of role for that member of staff; a change that needed to be managed. It was important to signal to the whole staff that the introduction of the managed service was in response to increasing complexity and the specialist technical demands of modern school networks. This did not reflect on any previous individual but represented a step change in the way ICT was to be used at the school.

Looking forward

The school is now well resourced with ICT and staff continue to grow in their confidence and use of new technologies with the children. The school is looking forward to building on this platform through the creative curriculum and is excited about the learning platform coming online soon. The school will continue to develop approaches to learning and supporting home-school links with technology playing a key role.

5.5 Ben Jonson Primary School

With the opportunity to develop ICT as part of a new building programme came a need to ensure that the greatest benefit was realised from that investment.

Key facts

Type of establishment: Primary school

Size: 420 pupils

Type of managed service: Managed ICT service for all curriculum and administrative provision and service.

Risk mechanism: Service level agreement

Transfer of staff? No

Key benefits

- Reliable equipment gives a focus on learning and frees the ICT co-ordinator to spend more time supporting staff with learning and less time on dealing with technical issues
- An insurance policy for ICT. The service level agreement helps to ensure that the equipment is reliable and issues are dealt with effectively.
- Getting the service on time. The managed service provider was able to bring in staff to ensure that the full ICT provision was in place and working on time ready for the opening of the new building.

Introduction

Background to the school

Ben Jonson is a two-form entry community primary school with about 420 pupils on roll and is located near the Mile End Road in East London. The first Ben Jonson School opened in 1873. It was rebuilt after the Second World War and re-housed in a brand new building in 2006. This move was enabled through a private finance initiative.

Over the past decade, the school has used managed services from a number of suppliers for support with varying aspects of its ICT provision. The current service is provided by its local authority in partnership with a private sector company and began in 2005. The introduction of this service was timed to coincide with the move to the new building in 2006 and supports all aspects of the school's ICT provision.

Background to the ICT provision

Prior to the current managed service and re-housing of the school, most ICT was located in the school library. The ICT co-ordinator had the responsibility for maintaining the equipment and administration on a day-to-day basis. He also liaised with a local firm providing detailed technical support and trouble-shooting when necessary. The computer to pupil ratio was about 15:1 and the curriculum machines were not networked. There were a small number of machines in the school office. Again, these computers were not networked.

Reasons for considering a managed service

The impact of the existing provision

The existing ICT provision did not support the needs of a modern school curriculum or its administrative duties. The low number of computers meant access was limited and pupils had an inconsistent experience of ICT from class to class. Furthermore, locating ICT in the library resulted in it being seen as a 'special' facility and not at the heart of learning and teaching. The lack of networking made the sharing of resources very labour intensive as each machine needed to be configured separately and central file, printing and internet services could not be delivered to each curriculum computer.

In the school office, many administrative tasks were still completed by hand – tasks that could easily be automated such as the recording of attendance and assessment data. This also placed an extra burden on staff when the need to analyse and interpret data arose. Electronic communications were not an established part of the school culture.

The decision to outsource

Having employed managed services in the past, the school understood the benefits that this approach could bring. When the deal to rebuild the school became finalised and a time frame was put in place for its opening. The headteacher recognised that the development of a new school included the electronic as well as the physical environment and saw an opportunity to address some fundamental issues with ICT. So the decision was taken at a very early stage to deliver a step-change in the level of ICT provision and use across the school in line with the move to a new building.

Seeking advice and understanding the current position

The new school build was led by the local authority. At the same time, the authority was looking to develop a programme of high quality ICT managed service for all its schools by working in partnership with a commercial support provider. The headteacher worked with the LA to enable The Ben Jonson School to become a pilot

in this programme. In joining at this early stage, the school gained access to expertise both from within the LA and from the support partner.

Approaching suppliers

The local authority managed the tendering process as part of the new school building project. After discussion with the LA and its support provider, the decision was taken to go to tender for cabling and receive the rest of the service (procurement, installation, and support) through the LA.

The installation of the cabling was overseen by a local authority technician who successfully helped to ensure that it was to specification and was coordinated with the planned installation of the ICT equipment.

Broad financial analysis

As the introduction of the managed service coincided with a building programme, a substantial additional investment was needed to buy and install new equipment. The managed service costs to support that service increased to address this increased provision. The level of technical support needed rose from one half day per week to one day per week. However, the cost of the service did not double; it rose by about 50per cent, giving better value for money from the technicians' service. It is important to note that this service also supports a far more complex set of equipment.

Benefits

Expected benefits

The school decided to bring in the managed service one full year before the move to the new building. The decision to do this gave a chance for the specifications for the new project to be confirmed and give an opportunity for teachers to use the equipment. It also provided a way of ensuring that all teachers had the opportunity to integrate ICT more into their daily teaching in readiness for the new build.

The decision to bring the ICT element of the new build forward also helped to set expectations with regard to the move and helped give staff some tangible evidence of positive change. It therefore became a factor in helping to manage the transition from the old buildings to the new.

Reliable equipment and a focus on learning

The capital investment has ensured that all teaching staff and pupils have much better access to ICT resources. Furthermore, they know that this resource is reliable and there is a point of contact for any problems. The managed service has also freed the ICT co-ordinator to focus more of his time on supporting staff and learners as there is less of a need for him to field day-to-day problems. ICT is used much

more throughout the school now. Without reliable support, this investment would have been put at risk.

Having a clear, consistent system means the experience for pupils in logging on and accessing work over the network has improved enormously. They can now access their work from any workstation on the school network. This has also opened the door for the next phase of ICT development in supporting home to school links through the development of a learning platform.

Less risks - an insurance policy for ICT

Using the managed service reduced a number of uncertainties and risks for the school. Going through the local authority ensured that potential private sector providers were vetted and that experts within the authority were able to scrutinise the level of support, expertise and stability of commercial propositions using expertise that would otherwise need to be bought by the school. The size of the authority gives it greater leverage when negotiating deals with the provider and when procuring equipment on behalf of the schools it serves.

The school describes the service level agreement as 'an insurance policy'. It knows what is to be delivered, to what standard and has a mechanism, if needed, to escalate problems.

Getting the service ready on time

The pressure of the new building programme and the desire to get ICT working before the move meant that the service needed to be in place quickly. The combination of the local authority and a private sector provider ensured that resources and expertise could be brought on to the project at key points. Crucially, this gave the school access to a service that understood schools and the pressures of the school year. Again, the degree of project management needed for such a programme would have drawn more human resources than the school had in itself.

Greater efficiencies

The school is now working smarter. The office staff were able to automate many of their procedures and are better able to address the modern requirement for greater electronic data flow with the local authority. All teaching spaces have an interactive whiteboard and class sets of laptops are available. This reduces the amount of preparation time needed to do an ICT based activity. Digital resources and planning material are now shared and available to staff online. This is also helping to ensure that ICT becomes more embedded where appropriate in classroom activities.

Maintaining the level of ICT provision through updates, upgrades and diagnostics is less time consuming and can be done remotely via the helpdesk.

Teachers now have access to the email and the internet from the staffroom and classrooms. In the past, many teachers were accessing the internet from home in order to prepare lessons or send emails. Having this facility available from school has made an enormous difference to many staff.

Issues, challenges and barriers overcome

Draw on expertise to save time and further costs

With the introduction of a new programme, it can be tempting to get involved in the technical detail of what is being planned. This can be very time consuming and prove to be an unwelcome distraction for teaching staff. The school learnt early on that it is important to be specific with educational and operational outcomes and let those with specialist expertise develop technical solutions. For example, the requirement for wireless laptops was omitted from early technical specifications but became apparent to the school by the output requirement for pupils to be able to access digital resources from anywhere on the school campus. By focusing on the output, the implementation details were left for the service provider to resolve.

The desire to get involved in the technical specification can result in timescales slipping due to information being made available to key people too late. For example, the position of a window in the roof of one classroom had implications for the position of an interactive whiteboard and projector. An experienced contractor would know that the architect and surveyors would require this information early and ensure that information was available to them in good time.

The school is dependent on one provider for managed services which they originally saw as limiting the range of options open to them. However, this has not proved to be a constraint and new solutions suggested by the provider have been well researched and supported.

Looking forward

The school is looking forward to building on its use of technology. Plans are afoot to develop the use of wireless access across the school. This forms part of a wider drive to deliver broader access to learning and resources, including the use of a virtual learning environment to provide access from home and to support parents. The school also hopes to explore the use of the new, more affordable access devices for pupils as a way integrating technology more seamlessly into their experience of school. This confidence has arisen from the good working partnership that exists between the school and its ICT support – as the headteacher put it, “It’s comforting to know you are not on your own!”

5.6 Essex Adult Community Learning

Moving to a managed service enabled Essex Adult Community Learning to improve and increase its provision to staff and students

Key facts

Type of establishment: Adult community learning

Size: 6 sites

Type of managed service: Network management

Risk mechanism: Service level agreement

Transfer of staff? No

Key benefits

- More time with students - the removal of the burden of system maintenance from tutors.
- Motivated staff and students - an increase in motivation, both for teaching staff and students
- Greater consistency across sites - a consistent desktop suite of applications and configuration was established across the sites being maintained
- Greater opportunities for learners- through equipment that meets the standards needed to host formal assessment software, support for assistive technology and a chance to deliver other ICT based courses.

Background to establishment and its ICT provision

Introduction

The Essex Adult Community Learning Service provides a wide range of part-time courses for adults across the county of Essex. This case study describes the experience of employing a commercial company to provide network management services for teaching equipment to a cluster of six sites in the west of the county.

Background to ICT provision

Prior to the introduction of the managed service in 2003, individual tutors were responsible for maintaining hardware and the network. As the need for more ICT equipment grew, this burden increased both in complexity and in the staff time it demanded. The result was a very unreliable set of resources that were inconsistently configured, often not networked, and frequently not fit for purpose. Faults were not

formally logged and issues were dealt with on an ad-hoc basis. Keeping the system running consumed a great deal of tutor time; time that should have been spent working with learners.

Managers started receiving complaints from students and teachers. It became clear that poor provision was hindering the service's capacity to deliver high quality computer based courses in this area of the county.

Reasons for considering a managed service

Senior managers were aware of the concerns of the teaching staff and the impact of the poor provision. An interim arrangement was made for a member of the teaching staff to take on responsibility for maintaining the network in a formal capacity.

During this period, complaints from students and teachers continued. It became clear that this was a specialist role requiring specialist skills. Alone, they were unable to maintain the ICT resources at a sufficient level. Furthermore, it was difficult to see how to develop the range of ICT courses given the current issues with resourcing.

The decision to outsource

The decision to outsource was made after careful consideration by the vice principal. Factors that were weighed were a review of the service following the interim arrangements, the volume and nature of the continued complaints, the impact of poor provision on future plans, and cost implications.

Seeking advice and understanding the current position

The learning service benefited from a range of tutors with experience in ICT. A strong consensus emerged as to the requirements and a recommendation was made to outsource network support as opposed to employing technical staff. A set of requirements was drafted that became the basis of a tendering exercise.

Approaching suppliers

A group of ICT tutors was established to manage the tendering process formally. This group was aided by a former tutor with specialist technical expertise who was able to provide advice and guidance on specifications and the quality of responses from candidate suppliers. They wanted a local provider with which they could establish a relationship. After researching companies in their area, ten firms were sent the specification and asked for responses. This list was reduced to three based on the quality of the responses.

The successful candidate was a company that spent further time discussing the requirements with teaching staff and made further recommendations in line with technical, staffing and financial needs. It was this approach which gave the staff

confidence that they would enter into the close type of partnership with the provider which they had originally envisaged.

Broad financial analysis

Employing a managed service was a new cost. In the past, teaching staff had provided that service. However, the costs of the managed service were about half the cost of employing a full-time technician with the necessary skills. This is without factoring in the additional benefits gained from having access to wider expertise within the company and not having the overhead of employing and managing an additional member of staff.

Benefits

Expected benefits

The need to buy in the managed service arose from the problems being experienced by staff and students. Therefore, the immediate expected benefit was an improvement in the reliability of the equipment. These improvements were seen within a matter of weeks. Over the course of the first six months, further improvements to the ICT provision, including the networking of the workstations, were seen.

More time with students

The most immediate benefit from the managed service was the removal of the burden of maintenance from tutors. Not only were tutors able to focus all of their contact time on working with students, less time was wasted during teaching sessions dealing with faults or managing inconsistencies across equipment. This gave an improvement in the quality of interaction between tutors and students and allowed a greater focus on learning. Furthermore, students were getting better value for money as the quality of their tuition had improved and there was less 'dead' time spent waiting for problems to be resolved.

Motivated staff and students

The secondary effect of these improvements was an increase in motivation, both for teaching staff and students. Visible investment and the service improvements were interpreted as a sign of increased value in these courses. On a practical level, tutors were much happier not having to deal with technical problems and field complaints from students. Tutors expressed the view that these benefits are hard to quantify but they do compound the other benefits seen and contribute to greater overall success.

Greater consistency across sites

A consistent desktop suite of applications and configuration was established across the sites being maintained. This consistency is a further benefit for teaching staff as they can be confident that certain resources will be available. Furthermore, teaching plans do not have to be altered according to the site in which they will be delivered. This makes planning more efficient.

The introduction of a network allows tutors and students to login on any workstation and retrieve work. In the past, users would have to ensure that they used the same workstation if they needed to retrieve any saved work. The network also made the sharing of resources such as printers and the internet more efficient.

Security was improved across the range of ICT resources. Before the managed service, users were free to install and remove software and internet access was not monitored effectively. This led to problems such as antivirus software being out of date which had exacerbated problems with reliability. The consistent desktop addressed these issues.

Greater opportunities for learners

The introduction of a reliable, networked ICT infrastructure has given greater opportunities for learners arising from both the improvements in confidence and in technical capacity. The service felt confidence in offering wider courses such as digital photography and web design. These sites have been able to install and use online National Tests in English and maths. Online examinations for plumbers are now supported. It is the managed service that has ensured that the network is of a suitable standard to host these applications. The service provider has also given support for assistive technology when specific issues have arisen with individual students.

Issues, challenges and barriers to overcome

Overcoming issues

The transition to the managed service was quite straightforward as the needs were quite clearly defined. The service provider spent a couple of weeks auditing equipment and planning the transition. Changes to the equipment were made during agreed times that were the least disruptive to classes. The provider was able to bring in extra staff from within the organisation at this stage to speed up the transition.

Managing the transition and building the partnership

The contract with the service provider included a six month probationary period. This was put in to give assurances that they were able to pull out if the need arose. By the end of the probationary period, staff had built a good level of rapport with the

technician and it was felt that the service provider understood their needs well. The contract was under an annual renewal from that point onwards.

More equal access to technology

The condition of the equipment before the managed service gave rise to a situation where some of the more technically able members of staff were able to configure and set up the system to their own needs. Handing over maintenance to the managed service provider meant that these staff needed to adjust to having less direct control. However, as formal systems for requests and fault logging were now in place, and the technician support was very responsive, the final outcome was a system that was much more tailored to the needs of all the staff.

Looking forward

Staff teaching at the sites here have benefited from the managed service. Current plans are for all centres to be supported by a managed ICT service operated centrally from the county council. This will ensure greater consistency across all sites within the county and will allow opportunities for greater efficiencies through centralised procurement and services such as the learning platform.

5.7 Northampton Academy

As part of a cluster of academies with a common sponsor and service provider, Northampton Academy benefits from proven technical solutions and the economies of shared services

Key facts

Type of establishment: Academy

Size: 1400 students

Type of managed service: Provision of hosted services, such as learning platform, email and content

Risk mechanism: Service level agreement

Transfer of staff? No

Key benefits

- The academy reaps the rewards of being part of a large network, such as discounts on software and hardware
- High levels of advice and support provided centrally
- Improved staff confidence leading to a substantial increase in the way technology is used to support learning. Training and conferences provided for the technical curriculum staff and management teams.
- Ability to share resources to improve effectiveness and efficiency.

Background to the academy and its ICT provision

Introduction

The academy opened in September 2004 on two sites - the buildings of the predecessor school and a neighbouring middle school that closed as part of the town-wide reorganisation to 11–18 education.

The academy moved to its new building on a single site in January 2006. The academy is sponsored by the United Learning Trust. The United Learning Trust has been created to manage a number of academies spread across the country. Six other academies make up the group which take a range of mandated and optional services from the service provider.

Background to the ICT provision

The academy employs its own technical staff to run the network. This includes a network manager and three full time technicians each with their own areas of

specialism. There is also a director of e-learning who oversees the ICT needs of the academy including the staff's ICT training needs. The service provides a number of centralised systems giving the academy a well organised and experienced support structure.

Reasons for considering a managed service

Services

The academy was offered a range of outsourced services by the service provider and was encouraged to consider these and other options.

The final decision was taken for the United Learning Trust to provide the ongoing management of the ICT provision with the hardware and infrastructure supplied and installed by a commercial company

Approaching suppliers

The e-learning director visited other schools and academies to understand best practice, and consulted with Becta support staff. Working with the academy's sponsor, a detailed requirements specification for ICT infrastructure, facilities and services for the new academy was drawn up to go out to suppliers. Tender responses were scored and suppliers shortlisted. After presentations from the short listed suppliers, one supplier was chosen as they could meet and in certain areas exceed the school's needs.

The selected solutions

The solution selected took a turnkey implementation project from the private sector IT supplier (benefiting in the process from the service providers group negotiated discounts and common design methodology), a range of services from the service provider including a managed wireless area network (WAN), group email, managed and hosted finance, payroll and HR applications, a hosted learning platform, and a range of e-learning start-up support services including training, supported by in house technicians and network manager.

Benefits

Expected benefits

Expected benefits working with the group as a service provider included external support and advice gleaned from real and recent experience, buying power for software and computers and shared good practice. These benefits were realised from the outset and still apply today.

Other benefits

Group-wide email across the managed WAN and integrated IP telephony across the group of academies has made communication easier – in turn facilitating sharing of knowledge and practice. Finance, payroll and HR systems are supplied and supported centrally reducing the systems administration burden in the academy.

Learning resources are also provided centrally. The group has an established standard for every teaching room – with a consistent whiteboard configuration and supporting software so all staff use the same technology. One of the benefits of this is all teachers create electronic flipcharts as resources which are stored centrally and then all schools can use these as the basis for lesson plans.

ICT and technical training is provided by the group, some by specialist dedicated teams. Once schools are up to speed with the basics the training is tailored to each academy's needs. The group hosts two conferences per year, one for the IT technical managers and technicians and one for the directors of e-learning. These provide an ideal opportunity to talk about latest trends and how technology is being used across the group.

The central learning platform is used as a medium for sharing materials and resources. Further, this is being used as a vehicle for sharing online testing and assessment developments.

The group IP telephony and managed WAN also delivers local call rates across all academies.

One of the benefits of a standard network and infrastructure design being implemented across all of the academies in the group is that it enables more efficient remote diagnostics and the ability for staff to move and provide cover if necessary.

Greater management control

A number of services are provided or sourced at group level but provide management information both locally and across the group. This provides valuable aggregation of development costs, supports cross-pollination of ideas, but allows local responsiveness and accountability. Examples of this include an email-filtering service which is provided via a central corporate licence, but the filtering happens locally to give the academy the information it also requires. A service which monitors what every child accesses is provided centrally, but with local control to give real time management information. The information provided is reviewed by the management team and appropriate action taken.

Greater confidence

Staff in the academy are confident about using ICT in their lessons, and have confidence that the ICT they are using can be relied upon. Being able to share resources such as interactive whiteboard activities and access to a shared video server, along with group email, is considered by staff to have improved their efficiency.

Issues, challenges and barriers overcome

Overcoming issues

Many of the issues the academy had to overcome related to the new building. The ICT has worked well and indeed the Ofsted report listed ICT as a strength. Working with the group has not been an issue as they have formed a partnership and have strong working relationships.

Looking forward

Future developments will focus on keeping equipment up to date, learning from the shared experiences to develop future direction and strategy, and continuing to drive benefits from the group relationships and scale. The learning platform will evolve further towards a comprehensive learning platform incorporating more interactive feedback tools. The academy believes this is all possible as they have a solid ICT foundation to build on.

Lessons learned

- Ensure that enough emphasis is placed on 'getting the basics right'. That is to focus on what the core requirements are before looking at the latest trends.
- Work with proven and reliable technologies to build staff confidence and reduce risks
- Rigorous project management of major service and facility implementations is critical to ensure that what is purchased is achieved.

5.8 St Helens Local Authority

By partnering with a private company to provide a fully managed ICT service, St Helens can now provide pupils, parents and teachers access to a safe secure connected community, anytime, anywhere.

Key Facts

Type of establishment: Local authority covering 68 schools

Profile: 56 primary, nine secondary and three special schools, pupil referral unit plus Looked after children and youth service centres

Type of managed service: All curriculum and administrative ICT provision and service

Risk mechanism: Service level agreement underwritten by the council with performance penalties

Transfer of staff: Yes, in some schools and staff from the existing supplier and some authority staff

Key Benefits

- Schools can choose the level of service they buy into
- High levels of proactive customer care provided
- Improved staff confidence leading to a substantial increase in the way technology is used to support learning
- Good management information flowing between schools and LA
- Well trained expert on site support ensures continuity of service
- School managers able to focus on maximising the investment in ICT and school improvement
- LA able to trial new systems and drive through change in a controlled manner
- Long term relationship and access to supplier expertise enables innovation to be nurtured and shared.

Background to the local authority ICT provision

Introduction

St Helens started considering a managed service in 2000, and the first service went live on the 1 August 2002. Since this time the local authority has changed supplier, introducing the current service provider in August 2007. The authority has adopted a collaborative approach with schools with a “can do” attitude and culture. The

authority consulted with the schools from the outset to understand their requirements. This helped inform the decision to change suppliers.

Background to the ICT provision

Before the introduction of the first managed service the approach was very fragmented. There was no confidence in the ability to use ICT or its support structure as there were different suppliers for each element of service. The schools ICT strategy group distributed a consultation document to schools to ask if the schools wanted to buy into a collaborative approach across the authority with a single point of access to a supplier. A formal set of requirements were developed. This formed the requirement for a formal OJEU procurement in 2002.

Reasons for considering a managed service

The original decision to partner

St Helens consulted with key stakeholders from within the authority to decide what services could be provided centrally and set up a working party which looked at reference sites. There was a strategic need from within the authority to have the same information flowing from all schools to inform policy. The authority worked on an affordability model based on price per pupil to make it fair to all sizes of schools, offering a choice of services which the schools could choose from to best suit their needs.

The authority wanted to offer its schools good value for money and a single point of access to the supplier they recognised by working collaboratively this could be achieved so was a factor in the decision to outsource.

Approaching suppliers

The authority was very clear at the pre-qualification questionnaire stage when it produced the specification that it wanted to work with a company who would understand the needs of education. They wanted a supplier who would make innovative suggestions to allow transformation to take place. They were also aware that the financial viability of the model depended on getting a critical mass of schools to take the service. This was achieved by presenting the benefits of buying into a managed service to the schools. Throughout the procurement the authority felt it was vital to spend a considerable time getting to know the company and the people who would deliver the service. Of the utmost importance was choosing a supplier who shared their vision and expectations. The authority was looking for a right source rather than just an outsource.

The decision to change suppliers

The original contract eventually ran for five years. In year five the process of re-tendering started and was overseen by the Schools ICT strategy group, chaired by a senior person within the IT Strategy and Regulation section from the chief executives department, and with the support of the Children's Services Directorate and all chief officers in the council. The schools strategy group included the following representatives:

- A senior advisor for primary schools to represent school improvement
- A senior ICT MIS manager
- A network manager
- A director of CLC to cover children's services
- A deputy head from a secondary school
- A primary school headteacher to represent special schools as well as primary
- A head of ICT from both secondary and primary schools

This group managed the consultation with the schools, and determined that the priorities for the new service should be a focus on teaching and learning facilities, more proactive support, and a step function increase in service levels. These priorities, together with value for money, formed the basis of the tender selection criteria, and the current supplier was duly appointed.

Benefits

Expected benefits

The schools now all have reliable and resilient networks and receive a high level of service and customer care. Different schools have chosen different service packages and service levels according to their individual priorities and budgets. A key criterion demanded of the new supplier was seamless transfer from the previous service provider, which was achieved through thorough planning. These benefits have been clearly demonstrated by the results seen in the customer service questionnaires.

Other benefits

The service St Helens now receives is proactive. The supplier centrally monitors servers and computers, and combined with a preventative maintenance regime, anticipates and avoids failures and down-time.

An education expert is provided by the supplier to each school one day per term (or more if required) to look at the education vision for each school, how it fits into the wider strategy for the local authority, and ILT progress and plans – this enables good practice to be shared across schools. In addition to this the supplier provides the

equivalent of ½ day per week technical expertise to each school to support teachers to gain confidence in using ICT in lessons, where relevant technical advice is also provided.

Greater management control

A dedicated service manager from the supplier ensures that service levels are constantly monitored and reviewed. Representatives from the supplier have now joined the Schools Strategy Group to drive further service improvement. Both the authority and schools have the information they require to fully understand the levels of service being provided and how it can be improved. This collaborative approach enables the authority and schools to drive forward the ICT vision for the authority as a whole and for schools individually.

Greater confidence

Staff confidence using ICT in their lessons has steadily increased – staff attribute this in part to increased confidence in the reliability of the ICT facilities and in the supplier to quickly resolve problems when they are reported to the service desk. The supplier's customer care team make use of detailed knowledge and information about the ICT to enable this responsiveness.

Some schools have a full time technician in school provided by the supplier. This allows the school to have continuity in the service provided and the schools do not have to worry about dealing with absence or capability issues, as the supplier has to manage this. The supplier also recruits the technicians, so minimises the risk to the school of appointing an inappropriate person. This also ensures good cultural fit.

The authority underwrites the contract so the schools have the confidence that any contractual issues are dealt with by the authority, not the schools.

Issues, challenges and barriers overcome

Overcoming issues

Moving from one supplier to another presented some challenges – particularly as schools were receiving (and were dependant on) an existing good service. To manage this move a transition strategy was created which clearly identified quality and service required.

Managing change and personnel

The schools were very familiar with the technicians and vice versa and were understandably nervous about the change. Keen to maintain staff continuity, St Helens worked with both suppliers to ensure a clean TUPE transfer of staff between suppliers.

Good project management and comprehensive documentation were important to the handover of the infrastructure, both centrally and locally.

Looking forward

One vice principal talks about the relationship with the supplier “as a very positive experience”, noting “their forward thinking with regard to new technologies and the disposal or recycling of kit, as well as their forward planning and the vision they bring to work with the school.” She meets with them on a regular basis to bounce ideas and is always looking at improving the experience for pupils and staff.

An advanced skills teacher, commenting on the benefits of buying into a managed service, again emphasises “the importance of a good relationship and confidence in the supplier”. She no longer worries about the network and whether it works: the response to call-outs is very prompt, and a technician comes to the school for ½ day every week to check everything is working well. "With a managed service, expertise and resources can be shared and you know these are tried and tested."

Lessons learned

- A senior manager champion is needed from within to drive the change through
- A strategy group should be formed to define what you are trying to achieve. This should include all key stakeholders.
- Clarity is needed before the authority starts the engagement
- The authority needs to have the same senior manager involved in the procurement as well as the implementation. This person then feels full accountability for what will be delivered.
- Supplier and all key stakeholders need to work in partnership
- Be aware of legal processes and engage the help of professional staff to work through details such as TUPE of staff and OJEU procurement at the earliest opportunity
- The initial requirements should offer the supplier the chance to add innovation and transformation. Agreements need to be flexible between all parties so that you do not feel locked down as needs will develop ; this is done by building a relationship that can be nicely described as three parties working as one.

5.9 Ysgol Friars

Working with a managed service allows the staff at Ysgol Friars to focus on teaching and not worry about the equipment failing. This has led to greater efficiency for the staff and enhanced the ICT skills of the students.

Key facts

Type of establishment: Secondary

Size: 1300 students

Type of managed service: Managed ICT service for all curriculum and administrative provision and service. Leasing agreement for the equipment.

Risk mechanism: Service level agreement

Transfer of staff? No

Key benefits

- Reliable equipment up to date equipment which works
- Predictable costs – the school now knows how much the service will cost year on year
- Greater opportunities for learners- higher volumes of equipment providing reliable access for students
- Motivated staff and students- an increase in motivation: both for teaching staff and students
- Greater efficiency for staff- the school now has a computer in every classroom enabling the staff to do all their reports on line as well as monitor students.

Background to the school and its ICT provision

Introduction

Ysgol Friars is a co-educational comprehensive school with 1300 pupils aged between 11 and 18. There has been a school bearing the name of Friars in the City of Bangor since 1557. Ysgol Friars serves Bangor City, Anglesey and Gwynedd.

Background to the ICT provision

The managed service was introduced in September 2004. Prior to this the school was running equipment which was seven to eight years old, unreliable and causing huge problems with confidence for staff and students. At the time there were about 140 computers and two aging servers, with little money to spend on new equipment.

Reasons for considering a managed service

Due to continual reliability issues Ysgol Friars recognised an urgent requirement to update or replace most of their aging IT equipment. It was determined that equipment would need to be leased to allow a step change – and the option of a managed service was considered a logical extension of this. The existing support contracts were very limited in scope and not meeting the needs of the school.

Underpinning all this was recognition that pupils were not receiving the IT exposure and training they were entitled to. Solutions and options were researched by the school's ICT team, and the governors approved a proposal from the school's management team to lease both equipment and services.

Approaching suppliers

Building on the requirements defined by the ICT staff, a tender document was compiled. The school sought a company who could supply all elements of a managed service, including staff training and supply of new equipment, but who were flexible enough to upgrade existing equipment wherever practical.

Broad financial analysis

The school is now running approximately 270 computers with four servers, and has predictable and consistent costs. The financial agreement they have with the supplier covers all equipment, software and service provision including equipment renewal on a four-year cycle with even spread of costs. Equipment, software and support service components can be removed or added in an agreed contractual manner.

Benefits

Expected benefits

The need to buy in the managed service arose from equipment being old and unreliable. The most immediate tangible benefit was an improvement in the reliability of the equipment. Existing computers that met the agreed minimum level (about 120 in all) were upgraded. Those not meeting the specification were disposed of by the supplier.

Motivated staff and students

Students now have a greater choice in how they learn, and the school can offer them a greater choice in what they learn- relying on a reliable network and increased number of computers. This has translated into more motivation in learning.

Staff now have better access to ICT with a computer in every classroom, and so are able to do reports online, use accessible email, and monitor their students' work and progress.

This increase in use and confidence is in turn leading to increased demand for ICT from staff and students. It is anticipated that the leasing and managed service model will provide an affordable and sustainable means of meeting this demand.

Other benefits

Proactive monitoring of the network by the supplier is part of the managed service. Monitoring systems alert supplier support staff to potential network problems, enabling them to take corrective action. The school also receives two weekly visits from a support technician during which he inspects the network and attends to any issues. The supplier installs any new equipment and software and provides training on its use – reducing the risk for the school of introducing new technologies and software.

Issues, challenges and barriers overcome

Overcoming issues

There was some uncertainty over the implications of adopting a managed service and the school worked during the procurement to understand what the service would 'feel' like day to day. The compatibility between the school staff and the supplier's style was an important part of the selection criteria and helped minimise the risks.

It was important to keep the existing network running whilst implementing a new technical infrastructure and integrating existing equipment. This was done by working closely with the supplier's technicians so they fully understood the school's requirements. This phased introduction was implemented as a partnership between the supplier and the school - mainly during the summer holidays - with the school technician focused on re-imaging existing systems and doing routine maintenance. This was the start of the introduction of Becta's Framework for ICT Technical Support (FITS) processes by the technician.

Looking forward

The school now has a strong baseline ICT facility with reliable equipment and a consistent look and feel. The school can now look at introducing new technology. The learning platform is work in progress and the school is keen to introduce this in order for the pupils to have out of hours access to the network and to learning materials. Increased use of ICT facilities has put more pressure on existing rooms/suites and consequently laptop suites were added in 2005 and 2006. The need for more space for extra ICT equipment has led to more use of wireless, personal digital assistants and laptops around the school.

Lessons learned

It is important to consider quite detailed specifications for equipment and not simply cost and headline specifications— for example, the battery life of laptops can make or break their viability in a busy school day.

Process is time consuming

The process of procurement is time consuming and resource hungry. It involves specifying requirement, equipment, evaluating proposals and costs, meetings with senior management, suppliers, advisors, and even governors. A timeline needs to be mapped out and key meetings booked well in advance. A July implementation would require starting before Christmas.

Goals need to be clear

Although assessing the number of available machines within a school is important, the ways in which the equipment is used and what the school wants to achieve with it is even more important. This might be lesson monitoring, automatic registration, learning platform. This use should drive the requirements statements.

Trying a managed service for the first time, the school was not sure what the provider might be expected to commit in terms of time and whether the school technician would be required to provide support or whether he should divert some of his time towards teacher awareness and IT support. External advice would have been valuable here.

The need for a service level agreement

A detailed SLA is vital to ensure that there are no grey areas between the school and the supplier. For example, the most obvious two main elements to be agreed should be repair and response timescales. However, many others need to be considered including preventative maintenance regime, network availability, virus protection, escalation procedures, points of contact, change control and project work.

Even with the most detailed SLA, it is important that the responsibilities of both the school and managed service provider are clearly understood by both parties.

The need for a service desk

A single point of contact within the school is essential, so that there is a clear process to follow for reporting incidents, problems and changes. A clear process will enable various reports to be generated that show the performance of the service desk and SLA. Ideally the process should follow Becta's FITS or IT infrastructure library (ITIL) as a system of best practice.

The provider has offered the school an online service help desk which is FITS compliant, but the school has not yet adopted the system. It is nevertheless felt that a help desk is imperative in order to keep track of repairs and work requested and undertaken around the school. In this way all staff are kept informed about processes and timescales of work carried out. An online system enables all staff to have access to information regarding the progress of work. The school can then move on from hijacking the technician in the corridor. Response and repair times are all key elements and part of the school self-review framework for ICT. A FITS compliant system would enable such reports to be generated as part of the evidence for the self-review framework.

5.10 Aylesbury College

By fully outsourcing all its ICT provision, Aylesbury College has seen a dramatic improvement in reliability which has given staff the confidence to embed ICT in teaching.

Key facts

Type of establishment: College of further education

Size: 1400 FTE 5000 enrolled offering 50 full-time courses and hundreds of part-time courses

Type of managed service: All curriculum and administrative ICT provision and service

Risk mechanism: Service level agreement with performance penalties

Transfer of staff? Yes

Key benefits

- More reliable network means staff and students have greater access to IT across the college
- Improved staff confidence leading to a substantial increase in the way technology is used to support learning
- Well trained expert on-site support ensures problems are resolved quickly
- Management able to focus on learning rather than sorting out network problems.

Background to the institution and its ICT provision

Introduction

Aylesbury College in Buckinghamshire was founded in 1962 and its 5,000 enrolled students can choose from over 50 full-time courses and hundreds of part-time courses. The college moved to a new building in August 2006, three years after the commencement of a managed service. The established partnership they had with their managed service supplier ensured the process of moving to a new building did not disrupt the ICT provision.

Background to the ICT provision

In 2001 it became clear following inspection that the college's ICT was suffering from significant reliability issues. The two networks running did not talk to each other. They had grown over time without any clear strategy, and many network components were connected without consideration of their compatibility. As a result

of this IT was not widely used across the college in lessons or with staff for administration tasks.

Reasons for considering a managed service

The impact of poor provision

The network was unstable and security was weak resulting in the IT provision being run in an uncoordinated way. This in turn led to staff having no confidence in using IT in their lessons and the technical team had no plan as to how to take IT further.

The decision to outsource

The college decided to embark on a trial in one room in September 2001. This trial took place in the independent learning centre which involved the installation and management of 50 computers by the then supplier. The trial was a complete success as the equipment and network worked reliably.

From this trial it was clear the college required the same level of resilience and service across the college so it was decided to take the decision to fully outsource.

Seeking advice and understanding the current position

The college decided they required the help of an external consultant to help them through the European tender process. The college knew they wanted to replicate the success of the managed service trial but needed help with the strategy. Staff were consulted to understand their needs and time was spent with the governing body in order to gain their commitment to the proposals. The principal, business director and head of resources reviewed what other colleges were doing to see whether an in-house solution or an outsource was desirable. This team agreed the right decision would be to outsource.

Approaching suppliers

With the help of the external consultant, detailed requirements and specifications were written and a formal OJEU procurement undertaken. In excess of 60 initial expressions of interest were received. A formal pre-qualification process produced a shortlist of six suppliers who were invited to submit tenders and attend an open day to present their solution.

A formal scoring method was devised. One key criterion was the ability of the supplier to write a plan for the takeover and transition process which provided valuable insight into their understanding of the issues of working in a college. On the basis of the comprehensive scoring method a single supplier was chosen.

Benefits

Expected benefits

The college expected to see clear benefits in bringing in external expertise. This has translated into much more discipline in how the network is run, eg software can only be added to the network after it has been checked out for compatibility with other applications, changes go through a formal approval process and problems are all logged and formally prioritised. The in-house technicians have received comprehensive training and two of them have been seconded to the supplier. After the experience of the trial room the college knew it would see a much improved service quality. This has translated into a resilient, reliable network across the college.

Other benefits

Having a dedicated service manager coming in one day every week means the communication between the college and supplier works very well. The service manager spends time with the technicians as well as staff in the college to ensure all needs are met. Students now have greater access to IT with an online booking system to the learning centre.

Greater management control

Now the network is resilient all staff and students use IT as a matter of course in lessons.

A service level agreement is in existence but it has not been used for any penalties. Reports are produced with measures to show if the targets are being met. This enables management to focus on running the college without worrying about the level of service.

Greater confidence

Staff morale has improved considerably as they are now confident about using ICT. The teaching staff now plan ahead using ICT and talk to the Resource Manager and the supplier about their needs to ensure they can be met.

Investing in ICT

The college now has a much clearer understanding of the costs associated with IT. Introducing the managed service has meant the CCTV and telephone systems can all be run across the same network. There are now fewer technicians running a much larger network as well as the telephone and CCTV systems.

Issues, challenges and barriers overcome

Overcoming issues

The college had to overcome a number of issues before committing to the full managed service. The trial period certainly helped to understand the benefits it would get from the service but issues still had to be addressed.

Drawing on expertise and building trust

Concerns about trusting the commercial sector and the lack of previous experience in this area were dealt with by employing the procurement specialist. He worked closely with the college to help define its needs and help it through the tender process, and then supported the college staff in spending time with the potential suppliers and their reference sites to build trust.

Managing change and personnel

The college already had its own team of technical staff so managing the transition had to be dealt with in a sensitive manner. Originally two sets of statistics were being produced: one from the supplier and one from the college. So work had to be done to reduce this to one set produced by the supplier. The college technicians soon started to work closely with the supplier's on-site engineer after seeing his skill set and how it could help them improve. Two of the college technicians are seconded to the supplier. They are trained by the supplier and have their performance management reviews carried out by them. This has worked well for the college as it now has highly trained technical staff managed by the supplier.

Transition planning

A huge factor in planning for the future of the college was the new build. One of the issues that had to be overcome was getting the builders, architects and suppliers all talking together and understanding what was required. The college asked the supplier to appoint a project manager to help with this as well as using the external procurement specialist. The new build worked well and provided the opportunity for the college to design its working spaces with IT connections in each space.

Looking forward

The college is very pleased with the decision to outsource its ICT provision, citing significant improvements in reliability, access to resources, efficiency and confidence. The managed service covers the service provided by the supplier. The hardware is not leased so any new hardware comes from the college's capital budget.

The managed service is now well established and the college is very happy with the service it receives and the ongoing relationship with the provider. They value the discipline in the way the provider works ensuring all staff follow set procedures. The

college is confident it can meet the needs of more of its students with the service and also believes it helps drive through other strategic changes more quickly. An example of this is access control. The college is looking at ways of improving learning with technology and is investigating mobile learning and students bringing their own equipment such as hand held devices into college.

Lessons learned

- A champion is needed from within to drive the change through
- The governors and college staff need to accept the changes
- The in-depth knowledge and flexibility of in-house technical team needs to be considered
- The help of an external expert who has seen the process through should be sought.

5.11 Tameside Metropolitan Borough Council

By agreeing contracts directly with suppliers Tameside can offer its schools good value for money backed up by excellent customer service.

Key facts

Type of establishment: Local authority

Profile: 74 primary, 17 secondary, 5 special schools and three pupil referral units

Type of managed service: Provision of hardware maintenance

Risk mechanism: Service level agreement

Transfer of staff? No

Key benefits

- Good levels of service have given staff greater confidence in using ICT across the curriculum
- Supported procurement gives the chance to discuss choices and see technology in action before committing funds
- Clear structures for communication ensure that everyone's voice is heard.

A flexible offering does not impose priorities of set ways of working on schools.

Background to the local authority and its ICT provision

Introduction

Tameside ICT Support Services support 99 schools around the borough. The schools can choose from a comprehensive range of services either from external suppliers or directly from the authority. The authority believes it is important that the schools have this flexibility in their choice as their needs vary greatly. The authority negotiates contracts with suppliers for equipment as well as technical services but it is then up to individual schools to decide what equipment and services they wish to buy. Schools buy into a 'Support Package' which gives them access to a wide range of authority services including a learning platform, podcasting, video conferencing, school website (CMS) and remote access solutions, management support, training and development, a central helpdesk and a wide range of technical services.

Background to the ICT provision

Tameside had been working with a local provider of hardware maintenance services for schools. However, this company stopped trading in 2000 and this gave the authority the opportunity to review its service offering to schools. The decision was to

develop a more integrated approach to ICT support and to look for companies willing to engage in a partnership to deliver those services.

Approaching suppliers

Time was an important factor. As the existing contract was with a company that had stopped trading, there was a risk that schools could be left with no hardware maintenance. The authority identified potential suppliers with the capacity and stability to provide ICT services for its schools. The schools were given the opportunity to scrutinise the service offering from a range of suppliers and two companies were identified as preferred suppliers.

Many schools had already paid the annual charge for hardware support from the previous company. To avoid the burden of having to pay for the service twice, Tameside were able to structure the contract so that schools would only start paying for support from the new provider in year two of a three year contract. This helped to ensure that schools continued to have support for their hardware and were able to keep some control over ICT spend during the first year.

Benefits

Expected benefits

When drawing up the service contract, schools told the authority that the key service criteria for the new providers were responsive fault resolution and a supportive help-desk. The recent annual survey from schools showed that they are impressed with the level of service offered by one of the new providers. The other, although performing well, had areas for improvement highlighted which are being managed by the LA and supplier to improve performance. Schools buying the service reported greater confidence in the reliability of their ICT and that problems would get resolved quickly. This in turn led on to greater use being made of ICT in the classroom as teachers' confidence in ICT increased.

The authority had a further set of requirements:

- True partnership working
- A no blame culture
- A can-do approach
- Openness in learning from mistakes.

The suppliers have fulfilled their role in these regards. In addition to maintaining regular contact with the authority, the suppliers make a special effort to communicate well with schools.

By negotiating and managing the contract with the suppliers, the authority has removed this overhead from schools. This gives a further efficiency and over and above the bulk discounting savings.

Supported procurement

The schools have built up a good relationship with the providers who now offer valued advice and guidance on specific items of technology. Schools are able to discuss new technologies and have the opportunity to try equipment or see it in use in other schools. This helps to share good ICT practice between schools and also reduces some the risks that arise from investing in cutting-edge or unfamiliar types of equipment. The authority monitors all purchases and is able to help assure good value for money.

Clear structures for communication

Headteachers meet termly with the ICT Support Services management team from the authority where they discuss the level of service they are getting from the supplier. Schools are also encouraged to give feedback through other mechanisms such as an annual survey or account management visits from the supplier. Such information is then fed into the quarterly review meetings held between the supplier and the local authority's ICT Support Service. During these reviews performance is discussed as well as developments and strategy. Complaints, of which there are none so far, would also be reviewed for learning points. Schools are visited twice a year by the authority's 'account managers' team to discuss what services they would like for the future. This information is also fed into the review meetings.

Issues and challenges

Managing more than one supplier

Having more than one supplier gives schools a choice and reduces the dependency that the authority had in the past on one provider. This means the authority carries the overhead of managing more than one supplier. It does this by having regular reviews with both suppliers. An action plan is created to overcome any issues which may arise from the service provided with clear service improvements as deliverables. However, this arrangement does provide an extra level of co-ordination and communication from local authority managers. This extra cost was factored in when designing the service offering but has still proved time consuming.

Differing levels of service

The strategy of using two preferred suppliers was a key factor in minimising exposure to the risks that the schools encountered in the past when the previous company ceased trading. One effect of offering schools choices in this way is that there will be an inevitable difference in the strengths and levels of service offered by

the suppliers. This has led to some schools comparing their services less favourably than those offered to neighbouring schools. However, as the local authority is managing relationships with both providers on behalf of the schools, it has been possible to use this pressure to provide greater leverage when discussing service improvements. Tameside have found that whilst it is important to have choice, and therefore differences in service, this type of competition can be useful in maintaining high service levels across the board.

Looking forward

Overall, schools are very happy with the service they receive; one primary school even described it as “brilliant”. Fast responses and supportive help-desk staff are valued highly by the schools. The local authority continues to work with the providers to evolve the service as the needs of schools develop. Working hard to achieve a good partnership has ensured that schools continue get the support they need from companies that understand education.

5.12 Richard Lander School

Richard Lander works in partnership with a software support provider to offer technical support and advice to primary schools.

Key facts

Type of establishment: Secondary school – specialist technology college.

Size: 1251 students

Type of ICT service: Software support contract purchased from a supplier of education network systems. Richard Lander supports primary schools' ICT infrastructure by using one of their own technicians.

Cluster: eight primary schools.

Key benefits

- Gives small primary schools cost effective access to technical support and advice
- Costs of system software are kept down as local support is trained and accredited by the supplier
- Pupils have a more consistent ICT experience between primary and secondary education
- Richard Lander does not charge the schools for this service and undertakes this responsibility as part of its ongoing commitment to the wider community.

Background to the institution and its ICT provision

Introduction

Richard Lander gained specialist technology college status in 1998. With this came an increased focus on developing teaching and learning in the specialist subjects with a particular focus on the use of ICT. ICT is now embedded across the school and they are able to provide ICT technical support to their partner primary schools.

Background to extending the ICT provision

The school is well resourced with four dedicated ICT suites, each with interactive whiteboards and 32 workstations. There are over 600 workstations on site including eight laptop trolleys each with 16 laptops. 70 interactive whiteboards have been installed across the school in teaching spaces and 10 servers provide a range of facilities across the school network. A proactive technical support team of four technicians maintains this provision and the school is able to offer students access to

ICT resources across the curriculum and during times outside of the normal school day.

The school has an established policy of employing and training technicians as part of a work experience programme. When the school chose to offer technical support to its partner primary schools as part of its application for specialist status it was decided that one of these apprentices would be trained to support the primary schools.

How the cluster approach works

The headteacher recognised a local need amongst primary schools for good, affordable technical support. After canvassing the views of the headteachers of Richard Lander's 10 partner schools individually, he decided that one technician would be able to provide each school with half a day of support if assigned to the primary schools on a full-time basis. As 8 of the 10 schools wanted to join, this would give the technician the equivalent of one full day within the week for administration and preparation.

A programme was then put in place where the technician established regular visits to the schools. Each primary school was allocated a set day for their visit so that they could schedule and prioritise work to do in addition to regular ICT maintenance and administrative tasks. A protocol was agreed with every school whereby the technician was able to leave his current duties and tend to an urgent matter if the need arose.

The primary schools do not have a formal contract or service agreement with Richard Lander. However, they must agree to using a standard network configuration and equipment that can be supported by the technician. The effect of this is to standardise the configuration of ICT provision across the secondary and its partner primary schools. The technician is trained and supported by the commercial supplier of the equipment and the primary schools pay a regular maintenance fee to the supplier to cover costs. Richard Lander's technician is the point of contact for any technical issues – the primary schools have no communication with the commercial provider over ongoing support. This arrangement has been in place for over nine years and has worked well for all the schools involved.

Benefits

The amount of ICT support required by each individual primary school does not warrant a full-time technician. Therefore, the cluster model gives access to technical support and at a level that is appropriate for each school. Greater value for money is achieved for the primary schools by removing the managerial and financial overhead of employing technical staff directly.

Access to local support

The greatest benefit for the primary schools is that Richard Lander provides the services of the technician free of charge as part of its commitment to supporting the local community. There is a fee to the commercial supplier – this covers the costs of accreditation and training for the technician. However, this cost is spread across the participating primary schools and therefore provides a more efficient mechanism for accessing technical expertise that might otherwise be available to an individual school.

Two lines of support

The accreditation programme and links with the commercial provider give a second line of technical support. Primary schools usually liaise directly with Richard Lander's technician but they are also able to contact the supplier directly for advice, guidance and support. If there is a problem that Richard Lander's technician cannot resolve, then he has an automatic route to seek further advice or progress the problem.

There are real benefits arising from these two lines of support. The commercial supplier is able to support schools during times when the local technician is dealing with lots of requests. Also, having access to the breadth of experience and expertise from within the provider has proved very valuable over the years, especially with difficult or highly specialised issues.

Lower software support costs

Primary schools in the scheme gain a further discount on system software supplied by the provider as the support costs are removed. The supplier is able to do this as the secondary schools technician is accredited by the supplier to provide that support. The accreditation process ensures that technicians are trained to give support at an acceptable level of quality.

Pupil transition

Pupils have less issues with transition in ICT between primary and secondary school since both use the same systems and set up. This provides them with a consistent experience in each school. Teachers spend less time familiarising pupils with the network at the start of Year 7.

Issues

Staffing the support

When planning to offer the service, Richard Lander faced the risk of having too much technical capacity if not enough primary schools opted into the scheme. By

integrating the support programme with work experience, Richard Lander was able to ensure that the financial costs of over-employing technical staff would not be too great. Furthermore, since the school had already agreed to absorb these costs as part of the specialist bid, this was seen as an acceptable risk. It also allowed for the phased introduction of primary schools to the support programme if needed.

The support programme is now well established and valued by the primary schools, with one commenting, "It's a very responsive support system including weekly site visits, telephone and email support"

A standard approach

Establishing standards across a number of schools gives benefits for the support staff in that they are working within a system that is well understood and documented. However, this could be seen as placing some constraints on the primary schools with regard to the types of equipment and software they can put on their network. This reason was cited by two of the ten partner primary schools for not wishing to join the programme at the outset.

In practice this constraint has not proved to be a significant issue for the other eight primary schools. Individual schools are still free to buy their own hardware and software and the technician can advise beforehand as to whether it can be supported. There have been occasions where a new item of equipment is not supported but this was decided by mutual consent and understanding by both parties.

Uniform support impacts on all supported schools

The current programme is stable in that all primary schools have received a uniform level of support (one half-day per week). Hence, the costs have been spread evenly amongst the schools. As the current service is dependent on one identified technician, any requests for higher levels of support could impact on the other schools. This impact would need to be explored and agreed with all schools in the programme.

Looking forward

The commercial support provider has recognised the extra value that Richard Lander's technician is providing and has recently agreed to reduce its maintenance charge to the primary schools to reflect this.

Lessons learned

Richard Lander School's advice to others considering offering such as service is, "make sure you have a good technician in place beforehand — one who is able to work independently at maintaining good relationships with the primary schools". The

ability of the technician to work with clients and maintain a good level of customer care is in some ways more important than their technical ability as additional technical advice is on-hand from school colleagues and the commercial provider. Richard Lander School advises that these skills should be looked for when considering the best member of staff for the job.

Becta's Framework for ICT Technical Support (FITS) gives a clear and comprehensive guide to technicians' responsibilities and best practice in supporting schools.

5.13 C2K in Northern Ireland

Delivering a comprehensive managed service to all schools in Northern Ireland provides substantial benefits for children and schools whilst providing excellent value for money.

Key facts

Type of establishment: Central government service for all state schools in Northern Ireland.

Type of managed service: Managed ICT service for all curriculum and administrative provision and service.

Risk mechanism: Service level agreement with payment mechanisms with a number of suppliers. Contracts awarded in 'lots'.

Transfer of staff? No

Key benefits

- Consistent, comprehensive services available for all schools
- Large financial savings and excellent value for money as a result of the size of the project
- ICT is a service so schools are now able to focus on learning, not technology.

Introduction

C2K (Classroom 2000) is responsible for the provision of an ICT managed service to all schools in Northern Ireland. Established in 1998 as a 10 year programme, C2K was supported by the Department of Education for Northern Ireland and part funded by the European Union.

The remit of C2K is to procure and implement all of the infrastructure, software and services necessary to deliver the teacher and pupil requirements identified in the Northern Irish Education Technology Strategy.

Through C2K, maintained schools receive a core service that includes:

- an infrastructure of over 60,000 supported networked computers connected to the internet
- access to a wide range of content and services to support the Northern Ireland Curriculum and the professional development of teachers
- an integrated suite of services for school administration and management

- connection of schools' networks into a single education network across Northern Ireland
- tools to facilitate the development of online teaching and learning
- support through a central help desk.

ICT before the managed service

C2K built on the successful work of the Northern Irish Class project, providing a managed service for management information systems to all schools in Northern Ireland. This service had been in place since 1989 and became well established over the following decade. In all other aspects of ICT, schools were responsible for their own provision with the support from their education and library board. Each board was responsible for giving information, advice and guidance to schools and set their own priorities and policies for schools' ICT. The education boards also had some autonomy over how funding for ICT was either retained or devolved to schools.

Reasons for considering the managed service

The impact of the existing provision

The large degree of autonomy and different approaches across the five education boards gave rise to a great deal of variation in ICT practice. There were examples of excellent ICT use in some schools, but equally others were suffering from underinvestment in ICT provision and a lack of staff training.

The variation in policy and funding also gave rise to fundamental differences in the types of technology across schools with differing platforms, operating systems and hardware being present. Over time, a situation emerged where many post-primary schools were supporting their ICT internally with their own individual set of priorities. Investment in ICT in many primary schools became a lower priority and the existing equipment and infrastructure frequently became outdated, poorly maintained and unreliable.

The class project however, had ensured that there was a consistent and supported approach to management information with the schools.

The decision to outsource

A number of factors began to be weighed up by policy makers. Inspections and reviews had made it clear that any investment in improving ICT across the province would need to be done with a long-term view. This gave rise to the need for a funding mechanism that went beyond the traditional education cycles. Policy makers also came to the conclusion that the political and policy ambitions as translated to the Education Technology Strategy would need the technical expertise, capacity and capability that was only found in the private sector.

Hence the decision was taken for an ambitious project that would provide high quality provision and support for educational ICT to all schools in Northern Ireland. The business case put forward was that savings and efficiencies would be gained from the scale of the programme, with the bulk of the managed service costs being paid by central government. The schools sector would be exposed to a cost that would be equivalent to its existing spend. This cost was to be passed onto individual schools in a way that was proportional to their size.

Seeking advice and clarifying the current position

A programme of consultation and engagement began with the school boards and the schools themselves. A series of proposals was produced and a draft sent to all stakeholders including governmental departments and bodies with an invitation for comments. The scale of investment (£40m per year) meant that a OJEU needed to be made and a Treasury Taskforce was set up to help guide this process and assure the province's best interests.

Approaching suppliers

The European procurement framework gives a clear structure for the engagement with suppliers and sets periods in which responses can be considered, clarifications sought and decisions made. A large commercial consultancy firm with experience in this area was brought in to provide advice and support. With the process in place, an eventual preferred bidder was arrived at. A recommendation was formally made to the project board with final approval being given by the Northern Irish Treasury and Department for Education.

The specifications drawn up for the tendering process were in the form of an Output Specification. This was technology neutral in that it did not request specific items of technology. Instead outcomes were stated in terms of what users could expect to do, processes that the technology was to support, and outcomes that would be expected from the solution. This was an important risk transfer mechanism as the risks associated with choosing the right technology, given the rapid rate of change of technology, were transferred to the service provider.

Another mechanism for managing risks was the use of lots. Contracts were awarded for set groups of schools over a set period in sequential lots. This helped to incentivise good levels of service as suppliers were aware of new business due to come on stream. It also gave the opportunity to switch suppliers if circumstances changed over time.

The whole process from consultation to agreeing a preferred bidder took four years.

Broad financial analysis

In 1996 the ICT spend for all schools in Northern Ireland was about £6.5 million. As mentioned above, the business case was for efficiencies to be gained from the size of the project with the managed service element to be paid for from the centre. Schools would be expected to contribute an amount equivalent to the £6.5M being currently spent. However, with time the efficiencies seen meant that schools now see this as a free service!

A recent independent review by a major independent consultant demonstrated that aggregating the purchase of the local area networking alone through C2K, as in comparison to individual schools procuring, had created savings of over £38M. This saving was at least £17M against being procured on the scale of the Education and Library Boards. This can also be expressed as the individual schools having the ability to purchase all of the hardware and most of the software but not being able to afford the design, installation or support elements of the provision. The review showed this gives a 30 per cent saving for the schools and tax payer when compared to individual school purchases.

Benefits

Expected benefits

The service was expected to deliver a step change in the quality of ICT provision in Northern Irish schools. It delivered this. Schools were able to access consistent levels of equipment and support regardless of their prior ICT investment. Pupils' experience of ICT became more consistent with regard to their access to equipment and school staff had equal opportunities for training and professional development in ICT regardless of the county their school was in.

A focus on teaching and learning

A couple of years after the service, those responsible for supporting schools' ICT began to notice a change in the conversation they were having with schools. This change was described as moving to 'what we are doing' instead of 'what we are building' in its focus. This was seen as evidence that schools are using ICT in a much more integrated and embedded way. Teachers are now considering the use of ICT in terms of outcomes for children as opposed to the equipment to be used.

There has been a maturing of the approaches to and expectations placed on ICT. ICT alone is not seen as being the key to transformation – it is the use and deployment that can enable transformation. For many schools in Northern Ireland, ICT has ceased to be something that is 'bolted on' to learning. It is harder to separate its use to raise standards, engage youngsters and provide new opportunities from good teaching and school management. Other evidence for this is

the change in role for ICT Co-ordinators as now being curriculum leaders as opposed to resource managers.

ICT as a service not as equipment

The approach taken by C2K, and the scale of the contract, has given rise to many other benefits. The financial analysis referred to early showed that the education system in Northern Ireland is accessing support and provision beyond the individual costs. Insurance, training, maintenance and software updates are provided as part of the service. Providers explained that they could deliver these additional benefits through this type of service-based procurement as opposed to an equipment-based procurement. The use of the Output Specification also helped to deliver these benefits as, again, the choice of individual technologies is a matter for the provider.

Issues, challenges and barriers to overcome

Consultation

With such a large-scale programme it was important to ensure that all stakeholders and affected parties had the opportunity to become part of the process. This was very important not only for the schools but for those whose role would change as a result of the new service.

The role of the education and library boards needed to be clarified and understood as the new service could be seen as centralising some of the functions that were traditionally devolved to this level of government.

Another key stakeholder group was school-based technicians. For many, their role changed to supporting schools with the use and integration of the new system. In the past many had been providers of that service. The presence of the managed service itself created new employment opportunities for technicians and many took up new posts created as a result of the service contract being awarded province-wide.

Engaging a service with such a scale

The scale and ambition of this project was very large from the outset. Therefore, it was necessary to bring in support from across the public and private sector. Governmental departments were able to advise and steer the project through its legislative path. The private sector was able to support the project with financial and procedural matters. The need for accountability and correct process was paramount with such large amounts of public money and, educationally, the project needed to succeed to justify the investment. The coordinated support of all these bodies was therefore key to its successful implementation.

Looking forward

C2K is continuing to make additional resources available to schools in the form of equipment, software and services. It is in the process of renewing contracts with suppliers and has built up a great deal of experience in working with managed service providers.

All Northern Irish schools are to receive new additional managed laptops by June 2008. This will add another 20,000 devices to the network and schools will have flexibility in how they deploy these devices. The new laptops will be supported with a range of curricular and administrative software too.

Findings and Recommendations

6.0 Findings

This section reflects on the implications of the analysis above. In considering the findings and recommendations, the following assumptions have been made:

- it is desirable to get schools and colleges to the e-transformation phase to meet broader policy aspirations
- a good ICT service and facility is key to this
- establishment staff need to concentrate on learner outcomes
- a managed service typically helps achieve all of the above
- there are likely to be many establishments who would benefit from a managed service but will not even consider it as an option until some 'catalyst event' is reached in line with the findings set out below.

Therefore it is appropriate to consider a number of recommendations which are designed to make it easier for establishments to consider the managed service route and then to procure a managed service if they determine that it is an appropriate way forward.

The table below shows a common timeline across the sample in terms of their realisation and decision stages:

	Stage	Step	Emotion / Decision
2 years	Realisation	Poor provision	Denial
		Catalyst event Ofsted New build New head Break down	It's broken
		External help Confirms problem	We have got to fix it
		Consider managed service	
	Fix	Audit	
		Procure	Decision made on how to fix Managed service
2 Years	Proving	Service starts Improvements Trust Confidence	It's working
		Start e-transformation	See results

6.1 'The decision' – analysis

The decision to adopt a managed service approach is usually triggered by some form of 'catalyst event'. The event might be a major breakdown in service, an Ofsted inspection which highlights concerns, a change of senior management team, or a new building project. This may do no more than act as a catalyst for the establishment to take stock of its ICT. It is the outcomes of an objective and often third party independent review which provides the impetus for, and evidence to support, the decision to outsource.

A major motivation to take the managed service approach is often the need to resolve ICT facility and service issues – to deliver a step function improvement.

Establishments were not generally well informed of the range of sources available to them to help resolve the ICT issues they faced. Although most schools made use of Becta's self-review framework they perceived this as a diagnostic tool rather than a solution finder.

Almost all establishments went through a formal third party review of their service to confirm their diagnosis and this process often raised outsourcing as a potential solution for the first time.

The corollary of these points is that none of the school and college sample pursued a managed service as part of a day-to-day progression with the development of the service – it is not generally 'on the table' as an alternative approach.

6.2 'The decision' – recommendations

Consideration should be given to how establishments might be influenced to consider a managed service without the catalyst event as a trigger. It is not obvious how this might be achieved, but the case histories within this report should contribute to a general message that managed services are a viable option.

An alternative is to consider how one might trigger a catalyst event earlier. The most obvious mechanism for this would be to strengthen the extent to which the ICT service and facilities form part of the inspection regime, the work of School Improvement Partners, and the National Strategies.

It is also worth considering the sources and nature of advice and guidance available to establishments once they acknowledge they have a problem and are seeking options for addressing that problem. A number of these sources of information may choose not to include managed services in their recommendations for various reasons (including conflicts of interest).

The need to determine and articulate the business needs and drivers in the context of functional requirements is important and yet often misunderstood. There are linkages and references to this within both the self-review framework and elements of the inspection guidelines – it may be valuable to reinforce these.

There is a need to understand the current baseline costs and service levels to allow accurate comparison with the delivered managed service.

6.3 'Implementation' – analysis

Procurement of managed services by individual establishments took one of two forms: either 'opting in' to an LA provided service, or through a formal procurement. The larger services procurements used an OJEU process that required additional external consultancy support. Consultants or advisers were drawn from a range of sources. There was no evidence of consistent use of any framework agreements for either consultants or managed service providers, although a number of schools made use of the Becta infrastructure services framework to 'identify a list of suppliers to talk to'. The Becta consultancy framework can provide establishments with access to procurement expertise.

A number of the larger managed service projects were implemented in two phases with an initial small-scale pilot followed by some informal evaluation and then a full procurement and implementation. Colleges stated that this gave them a chance to fix some urgent problems, test the concept of managed services and test their particular supplier. Suppliers were supportive of this approach in that it provided them with essentially an incumbent supplier position. In these cases it was important that the interim solution did not prejudice a subsequent procurement and governors needed to be convinced of this on two occasions.

The overall elapsed time from initial recognition of a serious problem with ICT until a supplier took over the service was typically two years.

Although the establishments undertook formal procurements with a value for money test included, these were generally comparative across the tender responses rather than as an absolute value for money test against in-house solutions. This is manifested in a general inability to provide accurate and meaningful before and after cost data. There is some evidence that this is a maturity issue – a number of sites engaged in managed services for longer or who have been through renewals are much clearer about the costs and in these cases can demonstrate cost savings.

The procurement of managed services is complex and those establishments taking this route are seeking external consultancy advice.

The relatively low penetration of managed services across the sectors, in contrast to the high levels of satisfaction among those sites who have taken that route, suggests

that the marketplace is still very immature – our research suggests that for a number of sites the service procured and implemented is continually being changed and renegotiated, is evolving as both suppliers and customers better understand the implications of managed services in education.

6.4 Efficiency and effectiveness

All of the establishments interviewed consider the managed service approach to be positive and can identify a range of benefits which they are clear are as a result of the managed service.

The most consistent benefit identified is that staff confidence and willingness to use ICT has improved. This benefit arose from a dramatic increase in the quality and reliability of the ICT service after the introduction of the managed service.

Accurate financial comparisons and therefore financial efficiency gains are, as expected, hard to identify. Of the 29 sites visited only 14 were willing and able to even approximate their change in financial expenditure linked to the managed service, with nine stating an increase and five no change or decrease. Converting this expenditure detail into value for money requires analysis of the benefits the establishment gained from the service (see 6.7.2). Even among these sites the financial detail is simply not available to separate managed service expenditure from the remedial expenditure which would have been required to initiate a similar step function improvement in ICT. In spite of this all of those in the sample perceive the value for money offered by the managed services to be good.

Two-thirds of those interviewed consider that the increase in staff confidence in the use of ICT has had a resultant impact on student engagement and motivation.

The majority of those interviewed were not able to articulate the use of managed services as a mechanism for transferring risk in detail. This is compounded by, and related to, poor levels of understanding of the total cost of ownership in those establishments prior to the introduction of the managed service. This area appears to be one in which more could be done to advise schools and colleges, particularly in relation to the wider efficiencies and added value that can arise from a substantial outsource.

6.5 Enabling transformation

Our research shows the more establishments move up the managed services spectrum, the more the contribution to transformation increases. The scale moves from a buying process where individual or point services such as broadband or student record systems (are outsourced to a true partnership where all the ICT provision is outsourced with payment mechanisms linked to service level agreements and staff put through the TUPE process.

Managed Services Contribution to Transformation

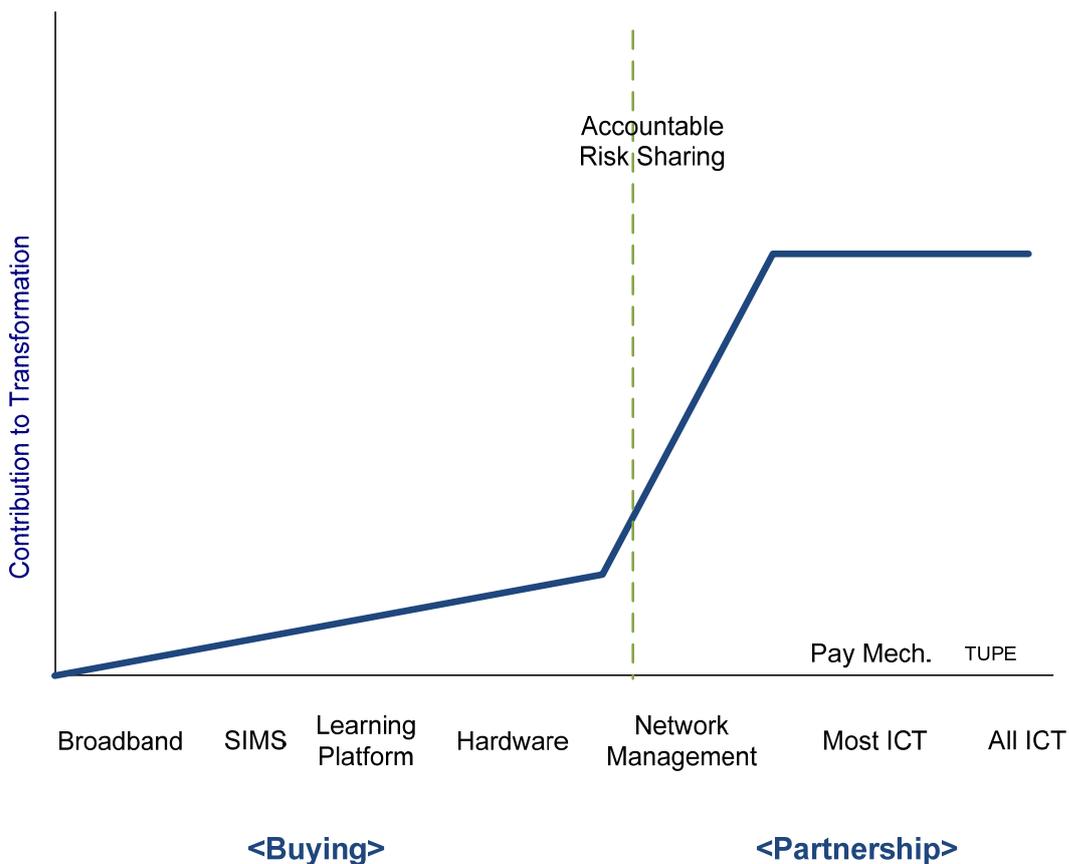


Figure 4: Managed services contribution to transformation

As stated earlier, the degree of senior management engagement needed in realising a comprehensive outsource is a significant factor in its ability to support transformation. This could be expressed in the opposite direction: embarking on a full-managed service is a way of engaging senior management in the ICT agenda.

6.6 Evaluation against efficiency and effectiveness model

6.6.1 Summary of measures

The model proposed had a set of five efficiency measures as follows:

- 1 Cost changes: extent to which establishment costs for IT service have changed
- 2 Productivity changes: impact of establishment's work as a result of service
- 3 Customer service changes: perceptions of the service from end users
- 4 Functional service changes: key service level changes for the service itself
- 5 Flexibility changes: impact on flexibility and change.

Whilst each of these may be made up from a number of subcategories, no overall aggregation across the five measures is currently planned. It is considered that a single average gain measure would be of limited value.

The model proposed a simple consistent rating for all efficiency gains. These ratings are: much better, better, about the same, worse, much worse

6.6.2 Cost changes – about the same

Giving a description of how costs have changed proved very difficult for sites. As noted in section 5, the vast majority of sites were unable to provide comparative data as costs before the managed service were not understood. Most sites indicated a rise in expenditure. However, further (often anecdotal) exploration indicates that the majority of that spend arises from new hardware procurement and installation and is therefore not intrinsic to the managed service. In three establishments, it was clear that the costs of the managed service were in fact about the same as that of employing a technician or network manager. In one case, the costs were less as they were pro-rated to term time despite the service being available all year round.

We therefore feel there is anecdotal evidence to state that the costs of engaging a managed service should be about the same as employing those staff. However, given the added benefits noted in this report, we can conclude that the managed services we have seen generally represent good value for money. The scale of the outsource is approximately proportional to the increased value seen.

6.6.3 Productivity changes – better

There was a very positive response from all establishments in this area, the most commented on being productivity gains resulting from greater staff confidence in ICT. Looking at the elements that make up this area, we can see:

Staff administrative time

This is often stated as being improved. It has also been observed that increased confidence in ICT leads to higher expectations from managers with regard to how teaching and other staff use the system. Therefore, whilst greater efficiencies have been seen in the recording and analysis of assessment and attendance behaviour, the availability of resources, and the preparation of teaching material, it is also fair to say that staff are doing more administrative tasks. This has had the knock-on effect of improving the level and depth of assessment data available for children enabling learning to be better tailored to needs. Overall, the final score for this element is better.

Student outcomes

Some centres reported an improvement in specific courses and scores. However, there was no hard evidence that this could be directly attributed to the managed service. It is more likely that the better reliability enables greater use of e-learning opportunities, such as e-content, internet, and the teacher can focus more on learner outcomes. The net result for this element is about the same.

Teaching staff motivation

Almost all centres reported an improvement in staff morale and hence motivation. This is linked to the catalyst for change and must be seen in the context of poor ICT provision negatively effecting morale before the managed service. The managed service can hence be viewed as a 'hygiene factor' in that it is able to improve bad morale but not necessarily produce high levels of morale. The overall judgment for this area is better.

Increase in use of e-learning

If we identify e-learning as the use of technology to support teaching and learning then centres reported a marked benefit after the introduction of the managed service. Again, this can be attributed to the reliability of the ICT service in addition to the often parallel investment in equipment that occurs when a managed service is employed. Therefore, the final score for this element is better.

6.6.4 Customer service changes – Much better

Interviewees often cited this as a major improvement. Again, this arises due to the catalyst and is a reflection of the condition that the ICT services were in before the introduction of the managed service. Despite being very subjective, this is a clear area in which schools and colleges reported a significant improvement.

6.6.5 Functional service changes – Much better

Again, interviews showed a marked improvement across the range of factors making up this category (responsiveness, reliability, performance and fault resolution) with nearly 80 per cent commenting on an improvement (see cross-case analysis). Again, responses were often subjective as many establishments had not needed to refer to SLAs. That in itself could be cited as evidence of a positive change. It also highlights the value of drafting a good SLA before the introduction of the service as it defines what is agreed to be of importance through what is measured and reported. It also sets the tone for the relationship at the outset.

6.6.6 Flexibility changes – better

This aspect proved to be harder to measure and quantify. Whilst there were often slippages in lead time (often arising from unforeseen problems with legacy equipment and installations), value for money could not be assessed due to a lack of data from before the managed service and a lack of benchmarking data more generally. Most establishments were happy with the level of flexibility; SLAs were sometimes used as a device to enable flexibility, as were regular review meetings with the provider. Another important factor enabling greater flexibility was the availability of broader experience and deeper expertise from the service provider. Centres with fuller outsources tended to describe their relationship as a 'partnership'. This partnership involves a degree of flexibility by definition. However, it is noted that some early PFI schools felt the SLA, having been set by the local authority, was too rigid. Overall, a subjective judgement of this category would be an improvement, not least from the fact that the ICT was often 'broken' before the managed service.

Appendices

Appendix A ICT managed service questionnaire 1– schools and colleges

The aim of this survey is to find out your experiences with using a managed service to deliver some aspect of ICT provision. A managed service is one that you have identified as a need but is managed for you by someone else. Typical examples might be computer networking and technical support, Internet and email filtering, or maintaining your management information systems.

First some facts about your establishment

1. Name of establishment:

Contact name:

Contact email:

Contact phone:

2. Establishment type:

- Infants only
- Primary
- Middle
- Secondary
- Further education

3. Establishment funding attributes:

- State funded
- Independent
- BSF
- Academy
- Specialist

4. Approximate number FTE pupils/students in roll:

5. What type of ICT managed services does your establishment receive? (Please choose only one which is the nearest match to your service).

- | | Closest to my service |
|--|--------------------------|
| Managed ICT service for the whole establishment including curriculum, administration, network management, hosting, content and on site resource. | <input type="checkbox"/> |
| Managed ICT service for the majority of establishment ICT provision but with some exclusions. | <input type="checkbox"/> |
| Provision of a network management service. | <input type="checkbox"/> |
| Provision of hosted services, such as learning platform, email, content. | <input type="checkbox"/> |
| Provision of hardware maintenance. | <input type="checkbox"/> |
| Provision of software maintenance and support of administrative and curriculum applications. | <input type="checkbox"/> |
| Provision of broadband services as part of a wider service offering. | <input type="checkbox"/> |

- 6. Who provides the service for you?
- 7. When did the contract for the service start?
- 8. When does the contract for the service finish?
- 9. Are other local establishments included in the service (eg a cluster)?

Yes No

10. What measures do you have in place to monitor the service? (Please choose only one which is the nearest match to your service).

- | | |
|---|--------------------------|
| No formal measures. | Closest to my service |
| A service level agreement (SLA) with the service provider. | <input type="checkbox"/> |
| A service level agreement with a financial penalty for non-achievement. | <input type="checkbox"/> |
| A service level agreement with a financial penalty for non-achievement and supplier risk sharing of educational attainment. | <input type="checkbox"/> |

Now some views about your reasons for considering a managed service

11. The following set of reasons may have influenced your decision to opt for a managed service. For each reason please state whether it was very important, important, unimportant or irrelevant to your decision to buy a managed service. Please tick the appropriate box.

	Very important	Important	Unimportant	Irrelevant	Don't know
Bring in external expertise: Managed service providers can bring in areas of specialist expertise that are not present within an establishment or are only needed for a fixed period of time.	<input type="checkbox"/>				
Improved Service Quality: Consistent provision across the establishment providing access to services and resources at a better quality than can be provided in-house.	<input type="checkbox"/>				
Predictable costs: Spend on ICT provision can be known and planned for a number of years in advance with a guaranteed level of service and provision.	<input type="checkbox"/>				
Costs are lower: Accessing financial savings through aggregated procurement or through accessing expertise only as and when needed.	<input type="checkbox"/>				
Focus on core competencies: Freeing management time and energy from the day-to-day running of technology services and therefore allowing more time to focus on learning and teaching.	<input type="checkbox"/>				
Scale as you grow or develop: Accessing services that adapt as the establishment grows or makes changes in strategic direction.	<input type="checkbox"/>				

	Very important	Important	Unimportant	Irrelevant	Don't know
Increased flexibility: Allows for provision to respond to changes in direction or policy without being locked into specific services, content or hardware.	<input type="checkbox"/>				
Risk reduction: Managed service providers are more able to offer specialist skills and resources that improve security, data integrity and integration into existing practices. Payment mechanisms can offer financial compensation as an insurance against the failure of meeting agreed levels of service or performance measures.	<input type="checkbox"/>				
Speed of implementation: Specialist providers can implement solutions and services at a faster rate than if delivered in-house.	<input type="checkbox"/>				
Meet policy/ funding requirement: Managed service providers can ensure that provision meets current and future requirements as set out by central and local government bodies.	<input type="checkbox"/>				
Tailoring of services: Service providers offer expertise in configuring and tailoring components of complex systems to better meet the individual needs of an establishment.	<input type="checkbox"/>				
Increased management control: By defining technological requirements as a set of service or educational requirements, senior managers may be more able to phrase issues and needs in the language of learning and teaching.	<input type="checkbox"/>				

12. Please state any other reasons that led you to consider a managed service:

Now some issues that you needed to overcome

13. The following is a set of issues that you may have needed to address when engaging with suppliers. For each issue please state whether it was very important, important, unimportant or irrelevant factor in your situation. Please tick the appropriate box.

	Very important	Important	Unimportant	Irrelevant	Don't know
Competition for resources: Engaging and committing time and money to a managed service may divert resources from other priority areas.	<input type="checkbox"/>				
Control of outcomes: Some strategic developments may be deemed too critical to rely on a third-party for delivery.	<input type="checkbox"/>				

	Very important	Important	Unimportant	Irrelevant	Don't know
Lock-in: The establishment has to weigh the issue of becoming reliant on a particular product or service or committing to future spend at the outset of a contract against the benefits offered by the service provider.	<input type="checkbox"/>				
A lack of prior experience with managed service providers: Managing the process of engaging commercial suppliers requires a certain set of skills and competencies.	<input type="checkbox"/>				
Physical size: Some establishments may be too small to be attractive to managed service providers.	<input type="checkbox"/>				
A lack of understanding of requirements: Working up a set of requirements requires a vision for technology and an understanding of the benefits it might bring within the establishment.	<input type="checkbox"/>				
Lack of management priority: Management support and engagement is critical to a successful partnership.	<input type="checkbox"/>				
Trust: The feeling that a third-party may be driven by a profit motive and therefore not have the best interests of the establishment at heart.	<input type="checkbox"/>				
Security: Sensitive data on individual students may be accessible by others not known to the establishment.	<input type="checkbox"/>				
Internal skills: Senior managers may feel that an over reliance on external parties will result in a degradation of internal skills and experience.	<input type="checkbox"/>				
Change management and personnel: Procurement of significant and complex managed services may impact on working conditions and terms of employment for some staff.	<input type="checkbox"/>				
Funding: The mix of revenue and capital funding as part of establishment budgets may not match the investment profile needed to migrate to such a service.	<input type="checkbox"/>				
Flexibility and control: Senior managers wish to be able to quickly prioritise and implement changes and this is perceived to be in conflict with maintaining a standard environment with high levels of availability.	<input type="checkbox"/>				

14. Please state any other issues that you needed to overcome and indicate their importance:

15. Thinking of the most important issue you encountered, what strategies did you use to overcome it?

16. Now some of the benefits you gained
Please outline the key benefit to learners you have seen since employing the managed service.

17. Can you attribute any rise in educational attainment or examination success to the introduction of the managed service?

Yes No

18. If yes, please state:

19. Please outline the key benefits for staff offered by the managed service.

20. Please estimate the level of change you have experienced in the following factors since moving to an ICT managed service.

	Much better	Better	No change	Worse	Much worse
Cost of service	<input type="checkbox"/>				
Productivity	<input type="checkbox"/>				
Customer service	<input type="checkbox"/>				
Functionality of service	<input type="checkbox"/>				
Flexibility of service	<input type="checkbox"/>				

Finally, a reflection on the process

21. What is the most important lesson you have learned during the whole process?

22. What advice would you give someone else considering buying a managed service?

23. We will be following up some of the questionnaire responses with site visits to provide further qualitative and quantitative data for the research. This would involve a short interview at your establishment at your convenience. Would you be happy to be carried forward to the latter stages of research?

Yes No

Thank you very much for your co-operation

Appendix B Site visits and structured interviews – schools and colleges

Introduction

The purpose of the site visits is to provide detailed information that will enable us to:

- place the managed service on the Managed Service Spectrum
- define the level and scope of the service
- understand the reasoning that led the institution to a managed service solution
- document the procurement criteria and methodology
- document any significant barriers and issues that arose and how the institution overcame them
- evaluate the benefits (both tangible and intangible) with supporting evidence and impact
- identify lessons that can be generalised for the benefit of others, and
- document the financial impact of the managed service.

The visit will comprise a series of structured interviews and a tour of the site.

Conducting the visits

The process for identifying and contacting sites, performing the visit and following up is outlined in the steps below:

- 1 Identify visit institutions
- 2 Confirm a date by phone
- 3 Call for a briefing conversation
- 4 Confirm in writing
- 5 Create and read a pre-visit briefing pack
- 6 Perform visit and interviews
- 7 Write report
- 8 Send report to school for fact checking
- 9 Send a thank you letter

The details of each step are outlined below:

Identify visit institutions

Candidate institutions will be identified from their response to the online questionnaire. The project definition document gives the ratio of institutions by sector. Institutions within each sector will be identified after an analysis of their responses.

Some initial sites will be contacted early to allow us to test and refine interview questions.

Confirming a date by phone

When confirming a date, the following people need to be available:

- A member of the senior management team for 30 to 45 minutes.
- Someone responsible for operational ICT (ICT co-ordinator/network manager) for a maximum of two hours including a tour of the site.
- At least one member of the teaching staff to represent views of the staff for 20 minutes.
- Four or five students for 10 minutes if the centre agrees.

Travel time and the school/college day must be taken into consideration when arranging a start time. Cover for primary school teaching staff may be claimed from Becta.

The briefing conversation

The briefing conversation allows the interviewer to introduce themselves, give any further details and answer further questions. Therefore, the briefing conversation should:

- be conducted by the person due to visit
- confirm the details of the visit including personnel, times and objectives of the visit
- agree the agenda for the day (see below).

Confirm in writing

A standard letter to the school/college contact confirming the above. The principal/headteacher will be copied if they are not the same person as the contact.

Pre-visit briefing pack

The following should be made available to the interviewer at least three days before the visit:

- Online survey response
- Inspection reports
- Copy of confirmation letter
- Accommodation details (if needed)
- Interview pro-formas
- Cover claim form if needed

The Visit

Where possible we would suggest the following structure to the day:

- Meet briefly with head/SMT for introductions
- Tour the institution with ICT co-ordinator/network manager
- Interview ICT support/services staff
- Interview staff member
- Interview students for secondary age and above
- Interview principal/headteacher/SMT

Detailed information will be collected from the following groups of people:

Senior management team (SMT) (30 to 45mins): to establish the context and validate the strategic decision to opt for a managed service. SMT will be able to assess impact against broader objectives for the school or college and be privy to financial and personnel information.

IT service team (2hrs max): to establish the detailed nature of the managed service, its migration/ integration into the existing systems and the impact the service has had on service delivery.

Staff (20mins): to validate the impact of the managed service on learning, teaching and working practice. Staff will also provide qualitative data regarding the levels of service.

Students (10mins): to gain the learners' perspective and an understanding of the benefits and issues as they see it with regard to their learning. Secondary age and older students will ideally be interviewed in a small group. Primary pupils will be questioned informally during a tour.

Specifically, the groups above will be questioned on the following areas as they relate to the definitions and models developed during the project:

Area	SMT	IT services	Staff	Students
Organisational context	✓			
Type of service	✓	✓		
Scope of service	✓	✓		
Reasons for choosing a MS	✓	✓		
Identifying needs	✓	✓	✓	
Describing the process	✓	✓		
Overcoming issues and barriers	✓	✓	✓	✓
Benefits- cost	✓			
Benefits- productivity	✓	✓	✓	✓
Benefits- customer services	✓	✓	✓	✓
Benefits- functional services	✓	✓		
Benefits- flexibility	✓	✓		

The structured interview should follow the interview schedule as set out below for each group.

Tours

Tours should be used to gain a sense of the institutional context, observe equipment and practice, validate the quality of the provision and ask informal or unprompted questions.

Write report

Reports will be written to a standard template that will be provided.

Send report to school for fact checking

A standard letter will accompany a copy of the report. These will be sent to the principal/ headteacher. We will assume everything is in agreement if there is no reply within 14 calendar days.

Send a thank you letter

At the end of the process, a standard letter will be sent to the principal/headteacher thanking them and their staff, acknowledging any comments from report checking and confirming the next stage, including the possibility of a published case study.

Appendix D1- Responses to online survey

D1-Factors influencing the decision to buy in a managed service.

	Very important	Important	Unimportant	Irrelevant	Don't know	Response count
Bring in external expertise: You needed external skills or expertise.	42.9% (24)	41.1% (23)	1.8% (1)	14.3% (8)	0.0% (0)	56
Improved service quality: You were doing this in-house but needed a more professional or reliable service.	36.4% (20)	38.2% (21)	5.5% (3)	20.0% (11)	0.0% (0)	55
Predictable costs: You wanted to know the costs over the next few years.	40.0% (22)	45.5% (25)	3.6% (2)	9.1% (5)	1.8% (1)	55
Costs are lower: You wanted to reduce the overall costs of ICT.	24.1% (13)	27.8% (15)	18.5% (10)	16.7% (9)	13.0% (7)	54
Focus on core competencies: You wanted to spend less time managing ICT and more time on learning and teaching.	56.4% (31)	20.0% (11)	7.3% (4)	14.5% (8)	1.8% (1)	55
Scale as you grow or develop: You planned to develop or grow in a new area and needed an ICT service that would cope with the demand.	43.6% (24)	34.5% (19)	5.5% (3)	14.5% (8)	1.8% (1)	55
Increased flexibility: You were entering a period of uncertainty and wanted to be able to change direction if needed.	13.0% (7)	25.9% (14)	27.8% (15)	29.6% (16)	3.7% (2)	54
Risk reduction: You had identified risks such as data security or a negative impact on attainment and wanted to structure a deal that would give compensation for failing to meet targets.	18.5% (10)	25.9% (14)	16.7% (9)	29.6% (16)	9.3% (5)	54
Speed of implementation: You wanted an ICT solution quickly.	26.4% (14)	35.8% (19)	17.0% (9)	20.8% (11)	0.0% (0)	53
Meet policy/ funding requirement: You needed to make sure that your ICT met with official guidelines or requirements.	22.2% (12)	35.2% (19)	18.5% (10)	22.2% (12)	1.9% (1)	54
Tailoring of services: You could not find what you wanted in standard packages or solutions and wanted someone to work with you to develop exactly what you needed.	14.8% (8)	35.2% (19)	13.0% (7)	33.3% (18)	3.7% (2)	54

Appendix D2- Responses to online survey cont...

D2- Issues that needed addressing

	Very important	Important	Unimportant	Irrelevant	Don't know	Response count
Competition for resources: You had a number of key priorities that needed the money and time.	21.3% (10)	51.1% (24)	12.8% (6)	14.9% (7)	0.0% (0)	47
Control of outcomes: You had a project that was too important to trust to someone else.	19.6% (9)	26.1% (12)	23.9% (11)	23.9% (11)	6.5% (3)	46
Lock-in: You did not want to be too reliant on one company or service provider as it could give them power.	19.1% (9)	14.9% (7)	27.7% (13)	31.9% (15)	6.4% (3)	47
A lack of prior experience with managed service providers: You had not used an external provider on this scale before and were apprehensive about beginning.	2.1% (1)	17.0% (8)	27.7% (13)	51.1% (24)	2.1% (1)	47
Physical size: You were too small for the larger companies to consider as a client.	2.1% (1)	8.5% (4)	29.8% (14)	55.3% (26)	4.3% (2)	47
A lack of understanding of requirements: You knew you had an issue with ICT but needed more time to properly work out what you needed.	0.0% (0)	25.5% (12)	21.3% (10)	46.8% (22)	6.4% (3)	47
Lack of management priority: Senior managers wanted to be convinced of the benefits.	4.3% (2)	27.7% (13)	31.9% (15)	34.0% (16)	2.1% (1)	47
Trust: The feeling that a third-party may be driven by a profit motive and therefore not have the best interests of your establishment at heart.	14.9% (7)	40.4% (19)	10.6% (5)	29.8% (14)	4.3% (2)	47
Security: You had concerns that sensitive data on individual students may be accessible by others.	12.8% (6)	29.8% (14)	23.4% (11)	31.9% (15)	2.1% (1)	47
Internal skills: You had concerns that you would lose some of the skills internally.	2.1% (1)	17.0% (8)	29.8% (14)	48.9% (23)	2.1% (1)	47
Change management and personnel: Procurement of significant and complex managed services may impact on working conditions and terms of employment for some staff.	2.1% (1)	29.8% (14)	19.1% (9)	40.4% (19)	8.5% (4)	47
Funding: The way in which your funding was structured did not fit to the way in which the managed service contract was structured.	0.0% (0)	14.9% (7)	29.8% (14)	44.7% (21)	10.6% (5)	47
Flexibility and control: Going for a managed solution would have given a standardised IT environment- you wanted more flexibility further down the line.	12.8% (6)	23.4% (11)	21.3% (10)	34.0% (16)	8.5% (4)	47

Appendix E- Managed service providers in case studies

School	Provider
Ben Jonson	Tower Hamlets London Borough Council in partnership with RM
Firside	Norfolk County Council
Richard Lander	Richard Lander in partnership with RM
St Olave's	Class Technology Solutions
Whitecross	Celltek Communications Ltd
Ysgol Friars	Gaia Technologies and Cynnal
St Helens LA	Mouchel Group
Tameside LA	Linetex Computers
Northern Ireland	C2K
Aylesbury College	RM
Orpington College	RM
Essex Adult Community Learning	Shadowfax Technology
Northampton Academy	United Learning Trust