



Managing ICT costs in schools



summary sheet



This summary sheet summarises the report *Managing ICT costs in schools* (Becta 2006), which is based on the findings from a series of projects with 43 schools between 2002 and 2005. The report explores how, in a changing context, school leaders can get the best value from existing technology and staff skills, while identifying sustainable arrangements for the future.

This summary sheet sets the educational context and illustrates the role of leaders in collating and managing costs, suggesting a range of ways they may use cost information to develop and embed the use of ICT.

Publication of the e-strategy (DfES 2005) marked a step change in government thinking about the importance of educational technology, and ICT is now regarded as a basic educational utility rather than as an additional service. Becta's National Digital Infrastructure underlines this point and clarifies that the systems and services required to embed ICT in schools must be appropriate, reliable, affordable and sustainable.

'We were going to buy a new set of laptops, but when we saw our TCO results, we realised it was more important we upgraded our network before it fell over.'

ICT co-ordinator – large inner-city primary

Planning for sustainability

It is essential that school leaders are able to accurately and strategically plan their finances. In addition to managing the capital outlay for essential ICT, school leaders are also responsible for planning the recurrent costs of maintaining, replacing and updating equipment.

School leaders have an important role in defining the ICT vision and development plan, and must be confident that these are achievable and based on accurate information. Obtaining precise cost information is vital for conducting 'what if' analyses and projecting the financial implications of a particular course of action.

The total cost of ownership (TCO) of a school ICT infrastructure is the sum of all the costs associated with the purchase, implementation, operation and maintenance of the facilities. To gain a better understanding of this, leaders can measure constituent ICT costs and the proportion of total ICT budgets they typically command. Constituent ICT costs would be: user self-support, formal support, training, consumables, network, hardware and software. With this detailed cost information, leaders can more easily allocate appropriate funding and sustain their school's ICT development.

Cost category	Average ICT costs per year (£)	
	Primary	Secondary
User self-support	12,116	74,183
Formal support	16,784	95,159
Training	2,113	2,769
Consumables	2,197	6,867
Network	2,668	14,168
Software	2,652	18,310
Hardware	12,415	59,828
Total	50,945	271,284

Table 1: Average constituent ICT costs per year

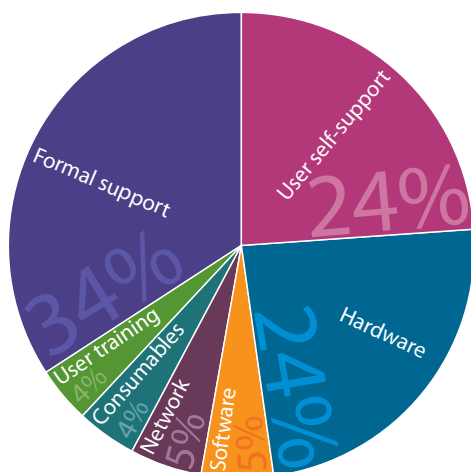


Figure 1: Average percentage expenditure on ICT in primary schools

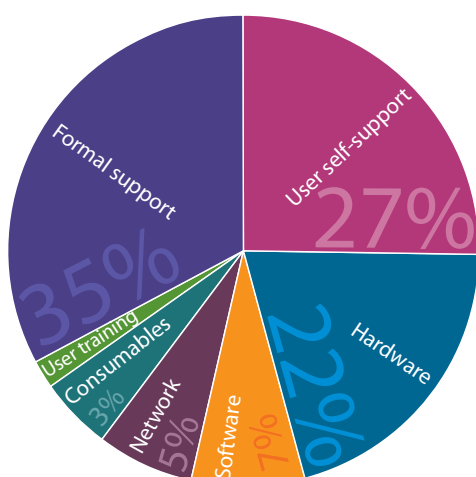


Figure 2: Average percentage expenditure on ICT in secondary schools

Becta TCO projects

Becta worked in conjunction with schools and Local Education Authorities (LEAs) on a series of projects to identify the best method for measuring the TCO of ICT – both visible and hidden costs. Establishing the TCO within a school is the first step towards sustainability – it is then necessary to implement a strategy that continues to monitor and manage costs over time.

The project schools were given a TCO tool developed using commercial best practice. The data required included three years of recorded costs for user self-support, formal support, training, consumables, network, software and hardware. It is essential to review ICT support and training as part of measuring TCO, because existing arrangements may have been made when schools had less equipment and a smaller range of technologies. The TCO tool also included a staff survey to record the views of teaching and non-teaching staff on such issues as their ICT confidence, training, available software and ICT support arrangements.

The project schools included primary, secondary and special schools in a variety of settings from rural to inner city. They also included large and small schools, and varied in their level of ICT provision. The project schools therefore gave a broad range of school situations in which to test the measurement of TCO, but the study made no attempt to infer the frequency of these situations nationally.

Project findings

The constituent costs of ICT were calculated for all project schools. Table 1 shows the average annual cost for each category of spend for primary and secondary schools. Although the proportion of spend on each constituent varied from school to school, the diagrams showing the average proportion of total ICT spend for each element (Figures 1 and 2) provide a helpful insight into how much of the ICT budget these elements typically command.

The projects were concerned with one important aspect of school improvement, namely how to get the best value from the technology and staff skills the school already has, while also identifying sustainable arrangements for the future.

The results provided leaders in the project schools with detailed and accurate TCO information, in many cases for the first time. A wide variety of uses were found for the results. Most leaders immediately had a far better understanding of costs, which they could use to inform future plans.

The TCO tool enabled school leaders to:

- audit current infrastructure
- identify staff ICT skills, confidence and satisfaction
- value current assets
- track ICT running costs.

The project findings were surprising for many of the project school leaders, and highlighted issues some had not even considered prior to participation.

Combined findings from the project schools were categorised as 'general TCO costs,' 'support costs' and 'management issues'. This was considered a helpful way of grouping the findings, because it ensured the specific outcomes could be easily highlighted to different groups of stakeholders.



Cost category	Annual average TCO per PC (£)		Annual average TCO per pupil (£)	
	Primary	Secondary	Primary	Secondary
User self-support	304	264	53	58
Formal support	406	386	66	102
Training	53	12	7	2
Consumables	53	28	8	6
Network	67	57	10	13
Software	64	67	9	15
Hardware	281	222	42	50
Total	1,228	1,036	195	246

Table 2: Average ICT cost per PC and per pupil in project schools

General TCO costs

There are several ways of considering the information produced in a TCO analysis: cost per PC, per pupil or as a total figure for the whole school. A number of important facts emerged during the projects:

- The annual TCO for ICT (including the hidden cost of user self-support) averaged around £50,000 for project primary schools and £270,000 for project secondary schools.
- The average annual TCO per pupil was £195 in project primary and £246 in project secondary schools.
- The average annual TCO per PC was around £1,200 in the primary schools and around £1,000 in the secondary schools.
- The total costs per PC and the cost of individual elements such as hardware varied greatly from school to school.
- Equipment and hardware represented a quarter of the total ICT budget, highlighting the value of an equipment replacement and refreshment strategy.
- On average, the way the TCO was distributed across different costs was similar for the primary and secondary groups of schools.
- Schools with similar numbers of pupils could have widely different TCO totals – partly due to different levels of ICT provision and circumstances.

Of the measures, cost per pupil (Table 2 and Figure 3) was the one favoured by some school leaders as it more easily matched the one used for funding analysis. Each measure is useful for different reasons, and together they provide school leaders with a range of figures to compare with those of other schools.

The general TCO cost figures contained a proportion of spend that none of the project schools had anticipated – the hidden cost of user self-support. The cost was calculated by considering how much salaried time was spent by non-technical-services staff members completing ICT support tasks.

'We'd like to introduce a three-year ICT replacement programme, so we're going to look very carefully at planning a funding strategy which will suit us and allow it to happen.'

Business manager – small secondary school

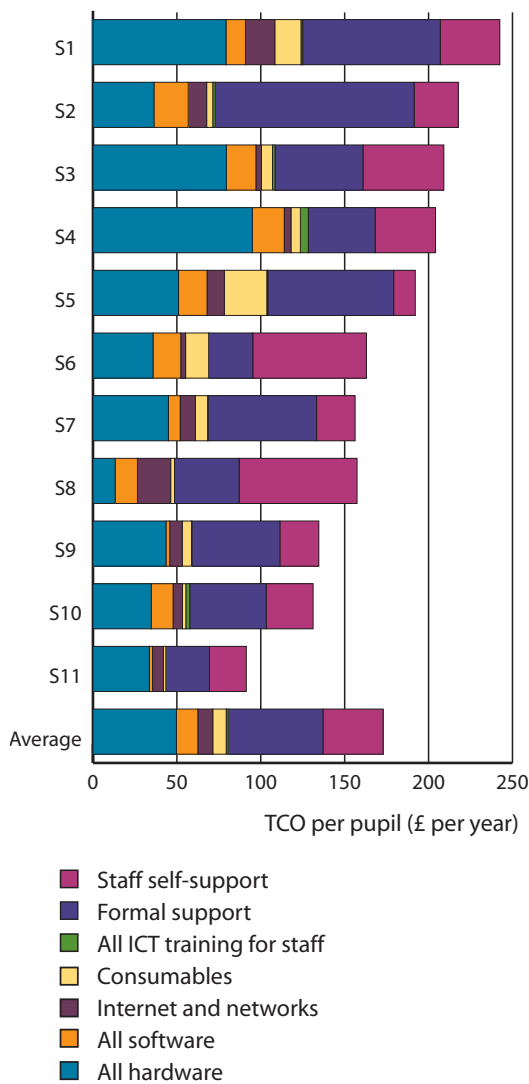


Figure 3: Spend per pupil on each constituent of the TCO of ICT in project schools

Support costs

Support costs formed a major topic in the analysis. When considering support, it was found that:

- of total costs, support constituted an average of 58% in primary and 62% in secondary schools
- hidden staffing costs for user self-support (ie from teachers, headteachers, administrative staff and classroom assistants) were a significant factor
- staff not employed in technical support roles in both primary and secondary schools spent around 30 minutes per week on installing IT, fixing problems and carrying out related administrative tasks (for example, loading paper in printers, backing up data or clearing disk space)
- schools used various types (often a combination) of in-house and external technical support
- no single method of providing technical support (eg through in-house assistance or external provision) was clearly more cost-effective than others in every situation.

The most striking feature of the project findings was that ICT support was by far the largest cost element of ICT budgets. Discovering that user self-support made up nearly half of the total support cost and was largely absent from budget planning was an uncomfortable finding for many project school leaders.

The cost of user self-support remained hidden in many cases as it was never recognised by the school, for example as a charge or invoice from a supplier. Salaried time spent on technical support tasks is an indirect cost to schools and may have an impact upon the quality of teaching, learning and overall achievement.

Despite different circumstances and methods of technical support in each school, the fact that user self-support occurred at all forced leaders to consider why their staff needed to supplement technical support. The TCO review provided school leaders with firm evidence of the time and cost allocated to user self-support. This information indicates that the formal technical support provided was insufficient for the needs of the schools.

Schools need a better understanding of their own support requirements, and could begin by assessing the suitability of their existing technical support solution. Identifying and filling the gaps in this should remove the need for user self-support and ensure that all future support is provided to industry standards, by technical services specialists, as a measurable and accountable part of an ICT budget.



'We believe in supporting our staff to make good use of ICT in their teaching, but when the TCO results showed how much informal support by our teaching staff was costing we had to do something. We now employ our own technician and share costs with another local primary school. This means the teaching staff and ICT coordinators can concentrate on embedding ICT rather than fixing it.'

Headteacher – large inner city primary

Management issues

A number of management issues emerged from the project school findings:

- Schools valued the opportunity to compare their costs with those of other schools.
- There were organisational obstacles to carrying out a TCO analysis in some schools.
- Help from external agencies was generally seen as an important factor in helping the schools introduce TCO analysis methods and complete their TCO models.
- Schools found many ways of using the TCO results (eg to improve decision making and raise governor awareness), but no school identified all the possible uses.

Many schools found it hard to bring together the information required, and welcomed external support to help them collate cost data and measure their TCO. Input from the LEA was particularly valuable in some cases where the LEA was also able to provide transparent cost figures for central services, such as technical support.

The actual process of finding data revealed where it was kept, in what form, and who had access to it. In some cases this stimulated school leaders to reorganise how information was collected and stored.

Some schools had difficulty tracking the age of their ICT hardware. The age and usability of hardware has a significant impact upon the support costs and associated sustainability of ICT in schools. In light of the project findings, many of the participating schools considered a variety of equipment replacement strategies.

Gaining control of cost information is extremely useful as it allows leaders to manage ICT costs proactively. This is vital for progressing ICT to a point where it is fully embedded and treated as a basic school utility rather than as an additional service.

Using cost information

Project school leaders exploited the findings in different ways according to their circumstances or needs. It was generally acknowledged that there were a wide range of benefits of a TCO analysis. Leaders used their TCO results to:

- improve forward planning
- identify unexpected costs
- carry out 'what if' analyses
- raise awareness of costs and investment levels
- justify existing policies (for example to governors)
- contribute to the public presentation of the school
- compare their costs with those of other schools
- identify organisational obstacles.

School leaders could benchmark financial performance against the school's own previous figures and use the information gathered to inform budget allocation decisions for ICT support, training and infrastructure.

Despite differences between schools (in the age of pupils (primary/secondary), the setting and size of the school, and level of ICT provision), the comparison of cost findings with those of other schools was a very popular use of the information.

Steps towards sustainability

Reaching and maintaining sustainability represents a significant aspect of what is involved in developing ICT to promote school improvement and pupil learning. It is clearly a substantial task for school leaders, but the work of the project schools indicates that the use of TCO analysis can make a significant contribution to achieving it.

Implementing a sustainable ICT strategy first requires the school to carry out a systematic review of existing and planned provision. In order for learners to fully benefit from ICT-enhanced learning and teaching, this systematic review must cover all aspects of the Becta TCO model. More specifically, school leaders need to:

- 1 **Assess** the quality of facilities and services required by the ICT development plan.
- 2 **Audit** existing ICT equipment – age and costs.
- 3 **Identify** the impact of existing ICT and practices on staff (and possibly pupil) satisfaction, confidence and competence.
- 4 **Review** staff training needs.
- 5 **Compare current costs** against relevant benchmarks.
- 6 **Review** purchasing practice and value-for-money processes.
- 7 **Compare actual ICT support needs** against the quality and value of current technical support and compliance with FITS.
- 8 **Reassess** the quality of facilities and services needed to support the ICT development plan in the light of these reviews (points 2–7).
- 9 **Plan** and introduce a rolling three-year whole-school budget, allocating a realistic proportion to ICT.

Links

E-strategy

This strategy describes the use of digital and interactive technologies to achieve a personalised approach within all areas of education and children's services.

<http://www.dfes.gov.uk/publications/e-strategy>

Self-review framework

Self review is important in enabling schools and colleges to mature in their use of ICT and improve educational outcomes. The eight key elements within this framework enable schools and colleges to take a global view of how ICT is used across their organisations.

<http://becta.org.uk/schools/selfreviewframework>

National Digital Infrastructure

This is Becta's vision for a national system which will enable schools to access high quality content and services through a robust, affordable, secure and sustainable infrastructure.

<http://www.becta.org.uk/schools/infrastructure>

FITS – Framework for ICT Technical Support

FITS helps schools to use technical support to resolve ICT incidents and to provide a reliable and effective ICT infrastructure.

<http://becta.org.uk/fits>

Best value ICT procurement

Becta continues to extend its range of EU compliant frameworks for ICT products and services that schools really value and can afford.

<http://www.becta.org.uk/schools/procurement>

ICT Investment Planning tool

A simple spreadsheet planner developed by Becta and local authorities to inform ICT investment decisions in schools.

<http://www.becta.org.uk/schools/procurement>

All Becta publications are available to order or download from

<http://www.becta.org.uk/publications>

References

Becta (2005) *Open Source Software in Schools: A study of the spectrum of use and related ICT infrastructure costs*. Coventry, Becta.

(Becta 2006) *Managing ICT costs in schools*. Coventry, Becta.

www.becta.org.uk/research

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