

## Fundamental Review of Information Technology

### Detailed Conclusions

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- 1 Purpose of Report
  - 1.1 To report to the Sub-Committee the findings of the member group appointed to review the Information Technology Service as part of this authority's commitment to fundamental reviews.
- 2 Review process
  - 2.1 The first meeting of the sub-group was held on the 7th July 1999 at which a number of important reports were presented to the group by the officers in order to establish the scope of the review.
    - 2.1.1 The first report from Chris Elliott gave an overview of the fundamental review process.
    - 2.1.2 There were two reports from the Head of I.T. one on the Operation of the I.T. Service which detailed the various functions of the I.T. Service and their associated costs, and another gave a Management Summary of the I.T. Strategy.
    - 2.1.3 The Head of Members' Services presented a paper on Cross service issues which included the Printing Service and Telephony which are currently part of Member Services and not the I.T. function. The printing service was reviewed in the previous cycle of reviews but the final conclusions were deferred to this round of reviews as it was recognised that the technology involved in I.T. printing and traditional photocopying printing was merging.
    - 2.1.4 Finally the group decided because of the specialised nature of I.T. it would be necessary to appoint some consultants to assist in the review especially for the bench marking process.
    - 2.1.5 The other area which the group felt it should give some consideration was in relation to the I. T. Strategy. Although the group acknowledged that the responsibility of the Strategy lay elsewhere, it felt it should examine the current strategy and the process undertaken to arrive at the strategy. Also, as a consultant was being used for this review they would also be asked to give some independent advice on the direction of any future strategy.
  - 2.2 The process for addressing the four C's was agreed as follows:-

**a. Consult**

The Head of I.T. had already begun a Customer Satisfaction Survey which was being organised by the MAPIT division of SOCITM (Society of Information

Technology Managers) in conjunction with the Wolverhampton Business School.

This exercise had begun in May and the results were expected in September. The survey was divided into a number of parts which covered the importance of various aspects of I.T. service delivery, the satisfaction rating of these aspects and an overall opinion of the I.T. Unit's performance. The survey was totally anonymous and the survey forms were sent to the Wolverhampton Business school for analysis.

There would be a follow up workshop on the results in London at which all the participating authorities would be invited.

**b. Compare**

Although the Head of I.T. was involved in a Bench marking Group with the other Heads of I.T. of the other Warwickshire authorities which has been comparing costs and processes of their services, the group felt this aspect could only be thoroughly evaluated to include companies outside of Local Government by the use of a consultant as mentioned above.

**c. Compete**

Only by doing this comparison would it be possible to judge the competitiveness of the service. It was agreed that at the next meeting a couple of potential consultants should be invited to give a presentation on how they would provide the information that the group required.

**d. Challenge**

Although there is no statutory obligation to provide an I.T. Service it is an essential support service to the provision of all the other Council services. However the question remains as to whether the service should be provided internally or externally by another company. The answer to this question relies very much on the results of the other three C's.

2.3 Prior to the next meeting on 29th July, the members of the group were invited to visit the I. T. Unit and meet some of its staff.

2.3.1 At this meeting two consultancy companies gave a presentation on the type of work they could carry out to assist in the fundamental review. The decision was then made to go out to tender for this work after agreeing the brief.

2.3.2 There was then a slight delay while the tender process was undertaken. The outcome of the tendering process was the appointment of two consultants. One company was appointed to undertake a full benchmark study of the I.T. Service including staffing and costs. The other company was asked to review the I.T. Strategy process and progress to date.

2.4 At the following meetings the findings from all the above studies were presented to the sub-group.

- 2.4.1 At the October meeting the results of the Customer satisfaction survey were presented in summary form with the full document to be circulated to the members in turn.
- 2.4.2 Also at this meeting a combined report on printing was presented by the Head of I.T. and Members' Services. As a consequence the group asked whether this type of service could be run by an external company so further investigation was carried out.
- 2.4.3 At the December meeting the company conducting the bench marking study presented its draft report. The final report with the completed Best Value Performance Plan was due in January.
- 2.4.4 A further report on printing was presented at this meeting and it was agreed that Xerox should carry out a comprehensive study on printing and document production.
- 2.4.5 At the January meeting, the other consultants presented their draft report.
- 2.4.6 The final two meetings considered the printing and document review report and agreed the Performance Plan.

### 3 Results of the Review

- 3.1 From all the studies undertaken above a vast amount of information have been produced which it is impossible to reproduce here.
- 3.2 However, the bench marking study produced two reports and extracts from the second one of these, IT Services Best Value Performance Plan, have been used to form part of this report. The company conducting this study, HEDRA, is a management consulting firm which has been doing these studies since 1990 and has bench marking information from over 250 organisations in both public and private sector.
- 3.2.1 In order to evaluate WDC's I.T. performance upper quartile benchmarks have been chosen. The criteria used to select the benchmark organisations and ensure proper comparisons are :
  - The organisations are in the upper quartile in terms of cost efficiency
  - A low cost per managed desktop PC or Help Desk problem call and
  - A high level of quality.

This review used data from a pool of upper quartile organisations for analysis of the Help Desk, desktop client/server systems, network and applications development together with user satisfaction.

- 3.3 The following results are based on the four C's:
  - **Compare** (benchmark against upper quartile organisations)
  - **Consult** (obtain the views of those who use the service), and
  - **Compete** (can another organisation provide a better service at a lower price).
  - **Challenge** (test the need to provide the service and the way it is provided)

### 3.4 Consult

3.4.1 The results of the Customer Satisfaction Survey were produced in 2 volumes. The first volume was an initial analysis of the survey for this authority. The second one compared our results with all the other authorities taking part. These were a mix of district, county, metropolitan councils and London boroughs.

3.4.2 During the course of the study undertaken by the consultant on the I. T. Strategy, all Business Unit Heads, the Chief Executive and Commissioning Directors were interviewed. The results of these were included in their final report and summarised below.

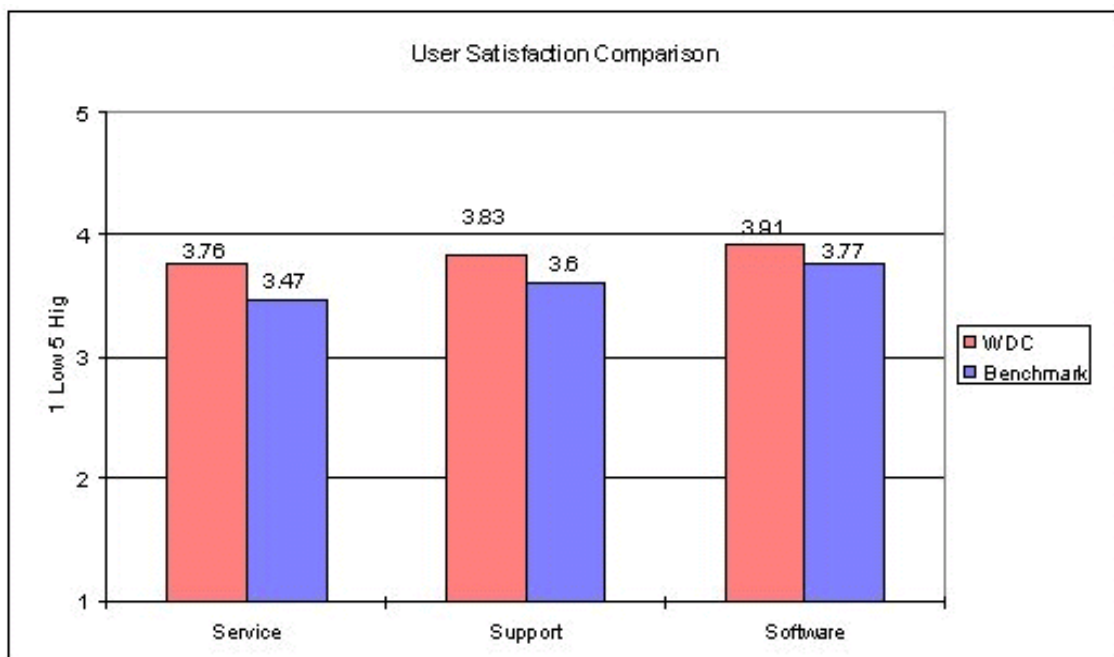
### 3.5 Compare

#### 3.5.1 Customer satisfaction and quality

3.5.1.1 Warwick DC's overall user satisfaction results outperformed the 17 other Local Authorities that undertook the questionnaire at the same time. In summary, WDC was in first position in 7 out of the 10 questions. (A subsequent survey has been held for 20 other authorities. The combined results still had WDC at the top).

3.5.1.2 HEDRA took the MAPIT questions and aggregated the answers into the same format used by HEDRA. The following chart shows WDC's performance against the upper quartile of organisations that have undertaken HEDRA user satisfaction surveys over the last 18 months.

3.5.1.3 There are three categories of HEDRA question: **Service**, which is hardware related, **support** which is the quality of IT support staff and **software** which is used on a daily basis by users. As the following chart shows WDC outperforms the upper quartile group in all three areas. In common with the benchmark, software scores highest, followed by support then service.



3.5.1.4 Two reasons why WDC performed well in this survey related to the appointment of an in-house trainer in April 1997 and a process of account management that IT adopted

in 1998 to proactively support all Business Units.

3.5.1.5 Training emerged as a key factor in the survey for all authorities taking part. Again, WDC scored highest for effectiveness of training provision.

3.5.1.6 The I. T. Service has a service level agreement in place and has had no unplanned server outages or virus infections for the three months prior to the Best Value study.

3.5.2 The HEDRA study included an IT Service review of the Help Desk, client/server infrastructure (desktop PCs, printers and shared servers), network and applications development. Key performance indicators were benchmarked against upper quartile organisations. These indicators include value for money, personnel productivity, support costs, quality, purchasing, software standardisation and print efficiency.

### 3.5.3 Value for money

The cost of providing a supported desktop PC at WDC is £813 per year. This unit cost includes hardware (PC, printers and shared servers), software (WordPerfect Suite, Email system software) and PC Support (desktop PC and server support). This is 25% below the £1,086 in the similar sized upper quartile benchmark group.

The cost of managing a Help Desk problem call is £15.16 at WDC, slightly (7%) more than the upper quartile benchmark of £14.11.

In essence, these unit costs show that the Council has a cost efficient IT service relative to their peers in upper quartile organisations.

### 3.5.4 Personnel productivity

WDC has 60 different physical locations to support compared to 17 in the upper quartile benchmark. This adds complexity to the IT support operation.

The HEDRA report stated that WDC has a high level of IT personnel productivity when compared to the upper quartile benchmark. Relative to benchmark, WDC's productivity levels are:

- 60% higher in desktop PC support,
- 11% higher on the Help Desk,
- 3.6 times higher in the network and
- 25% higher in applications development.

If WDC were to have the same level of personnel productivity as the upper quartile benchmark, the number of WDC staff in these four major areas would need to increase from 12.2 (including 1.2 ITLOs) currently to 18 staff.

This investment in additional IT staff would reduce the Council's high level of vulnerability due to reliance on fewer key staff. In addition, this investment would underpin essential IT and telecommunications project work that WDC will increasingly rely on in the move toward E-Government and 'joining up' both internally and externally.

This requires more staff on R&D, control and project work than upper quartile organisations from both public and private sectors. Additional IT staff need to identify, develop and implement the options for the Council to move forward.

### 3.5.5 Support costs

The cost of providing IT support at WDC is lower than the upper quartile benchmark. The WDC support cost per PC for:

- desktop client/server is £333, 47% less than the benchmark of £634,
- Help Desk is £66.4, 5% above than the benchmark of £62.7
- Network is £16.3, one third (29%) of the £57 in the benchmark and
- applications development is £222, 25% less than the benchmark of £296.

WDC's total IT support cost per PC is £642, compared to £1,049 in the upper quartile benchmark. If WDC increased the number of IT FTEs to 18, the IT support cost would increase to £948, 10% less than the upper quartile benchmark.

### 3.5.6 Purchasing

WDC has 22% higher hardware costs primarily due to the Council having more computer equipment than the benchmark, printers in-particular. Analysis of PCs bought within the last three years shows the price to be almost the same as the upper quartile benchmark. This shows that the Council acquires computer equipment at competitive rates.

### 3.5.7 Software Standardisation

WDC has a similar level of complexity in the software inventory as the benchmark organisations on average, however, the software cost per PC is half that of the benchmark. This is largely due to WDC using WordPerfect Suite with licence costs one third of MS/Office which is used by benchmark organisations.

### 3.5.8 Print efficiency

WDC has a number of key differences to the upper quartile benchmark, as follows:

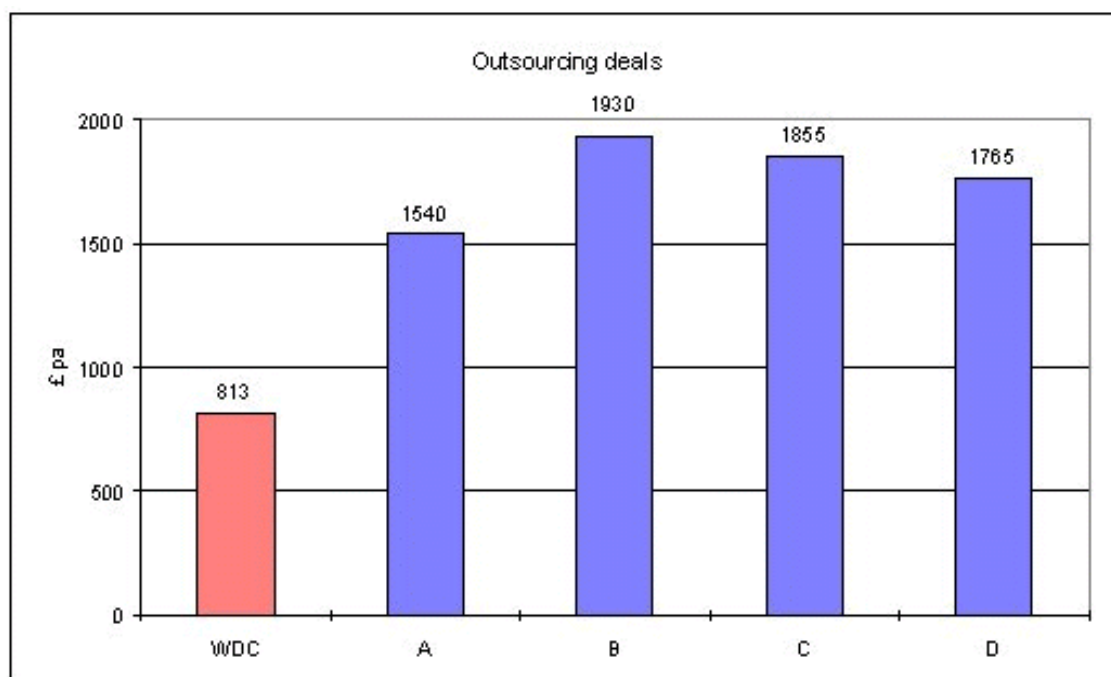
- 4 times as many black & white printers
- 50% more colour printers
- Black & white print production 2.4 times the benchmark
- Lower utilisation of black & white printers (44% fewer pages per week)
- Twice as many pages printed per PC.

## 3.6 Compete

3.6.1 A number of organisations have outsourced their IT services to either improve quality or reduce costs.

3.6.2 HEDRA has assisted a number of organisations outsource their IT services. This experience provides a detailed insight into what organisations such as WDC would actually pay an external IT provider for a similar level of service to users.

3.6.3 The following chart illustrates the cost per managed desktop in four organisations that have outsourced, or renegotiated contracts for, their IT service within the last 18 months. The chart shows that the cost per desktop PC at Warwick District Council is **half** (47% below) of the lowest cost in the group.



### 3.7 Challenge

3.7.1 The IT service underpins the majority of services that the Council provides. In addition, a significant investment has been made during 1998/99 to upgrade the IT infrastructure to meet the user needs into the new Millennium.

3.7.2 There are a number of key aspects associated with the provision of WDC IT services that may be challenged, including:

1. Should the IT supplier be in-house or external?

HEDRA recommends that the IT service provision should remain in-house as it is more cost effective than externally provided IT services and the level of user satisfaction is higher than many Authorities and recent outsourcing evaluations by HEDRA.

1. How should WDC be charged for the IT service?

Rather than major capital projects, many upper quartile organisations have a cost per managed desktop PC with one quarter of the inventory being refreshed annually, this would be about 120 PCS at WDC, as part of an ongoing (as opposed to spasmodic) replacement project. HEDRA recommends that WDC should move to this 'utility' model of IT provision where providing IT service is akin to paying for electricity or a telephone service

2. Should IT be under centralised or decentralised control?

HEDRA recommends that IT strategy, defining corporate hardware and software, purchasing, installation, support and technology control should remain central at WDC. This enables standard IT desktop PCs and systems to be used Council-wide providing the 'joined-up' framework for future initiatives. Information systems strategy should involve both departments and the IT department to ensure that systems adhere to a strategic IT model enabling information flow between systems

3. Is the current IT service cost efficient?

IT provision is cost efficient at WDC. WDC has a desktop IT service for £813 per PC per annum which is 25% less than the £1,086 in the upper quartile benchmark and half (47% below) the £1,540 or higher we would expect WDC to pay if outsourced.

4. Does the current IT service meet the needs of users?

The 1999 MAPIT IT user survey had a range of specific questions on the provision of IT service. Within the MAPIT group WDC had the highest level of user satisfaction and is referred to by others in search of best practice.

5. Should the provision of the voice telephony service remain separate from the IT provision?

The wiring within buildings is already used for either data or voice. The move to Leamington House has caused opportunities to review the total network. The future in the industry is based on the convergence of voice and data technologies in particular with the role of Internet telephony. Five years from now it is likely that most business transactions will take place over open Internet protocol data networks, rather than the industry propriety networks used by most organisations today. Consideration is being given to whether the Council wishes to operate a call centre. This type of operation relies on Computer Telephony Integration.

There is strong evidence that the voice telephony should be integrated with the data network under the I.T. Service thus creating an ICT Service.

6. Should the IT print function and the central reprographics service remain separate?

Following the conclusions of the Xerox Study, the IT print function should be combined with the central reprographics unit and the services provided should be subject to tender to be provided as a managed service based in Leamington House.

4 I.T. Strategy

4.1 As mentioned earlier, it is not under the remit of the group to devise a new I.T. Strategy but it was considered appropriate for the group to look at progress and methodology of the existing I.T. Strategy. The company Terraquest, was contracted to carry out this work with the added brief to suggest a way forward for a future strategy.

4.2 During the course of this study all Business Unit Heads, the Chief Executive and Commissioning Directors were interviewed. Reference was also made to the Invest to Save Bid and the various corporate strategies.



#### 4.3 The main findings of this review on the Strategy to date are;

- there has been a move from dumb terminals to a complex mix of networks, networked PCs, mini computer systems with corporate facilities such as E-mail and Intranet
- computing facilities for Members
- the introduction of technological complexity will have required the IT team to learn a myriad of new skills
- the structure of IT Unit has not changed significantly during this time
- large growth of PCs over last three year as well as year 2000 implications has generated additional support overheads
- the Council is now equipped with modern cost-effective hardware
- the move to Leamington Hose will allow for further rationalisation of networks and hardware (for example printers and servers)
- a formal IT Strategy has been in place since 1995
- most of the key objectives have been met
- the outstanding projects are in the areas of corporate technologies such as document management and GIS. This was due to a lack of resources.

4.4 There were a number of recommendations which will need to be considered for the next IT Strategy such as developing web enabled applications, reviewing the impact of Microsoft desktop products, introducing a Land and Property Gazetteer, implementing Corporate Electronic Data Management.

4.5 In addition the report suggests the formation of an Information Strategy and a Public Access Strategy to support the ICT Strategy.

4.6 Their findings supported the view of the other consultants that the IT Unit was under resourced for the current workload and that the structure should be reviewed.

## 6 Conclusions and Recommendations

6.1 There are a number of conclusions that can be drawn from all the studies that have been carried out.

6.2 The summary of the strengths of the I.T. unit are:

- lower cost per supported PC
- a higher level of personnel productivity in client/server, Help Desk, network and applications development
- a lower cost per desktop PC for client/server, Help Desk, network and applications development
- fewer unscheduled outages on servers
- a lower number of virus infections
- standardised software environment
- lower software cost per PC
- highly effective training facility.

6.3 Similarly there are a number of improvement opportunities.

- the high level of IT productivity and low level of staff contingency should be proactively managed. HEDRA recommend that WDC increases IT staffing levels by at least 4 and preferably 6 staff. This would improve at least two key matters for the Council:
  - Minimise the risk of over-burdening IT staff, relying on few key staff and consequently jeopardising the quality of service to users; and
  - Enable time to be spent on essential IT R&D and project activities which will correctly position WDC for e-government and joined-up working in the new Millennium
- Stop buying printers for the next 12 month. WDC has significantly more printers, in relative terms, than the upper quartile benchmark. WDC prints twice as many pages per PC as the benchmark, yet almost half as many half as many pages per black & white printer.
- Based directly on the Service Level Agreement adjust the annual charge for a supported desktop PC to include hardware, software and support. This is more than the current charging system as capital costs are included. This will enable IT equipment to be refreshed as a matter of course (say every four years) and remove the burden of periodic major capital projects and consequent major change projects.
- Build on the high satisfaction rating to further improve efficiency and effectiveness
- Write a new ICT Strategy taking regard of the proposals in the consultant's report.

6.4 Other recommendations include the following.

- The integration of voice telephony with the data network to form an Information and Communications Technology Unit.
- The I.T. print function should be merged with the central reprographics unit and be subject to tender as a managed service.

6.1 A proposed performance plan is given at Appendix B.

## Information Technology Performance Plan

<b>Opportunity</b>	<b>Current performance</b>	<b>Target Performance</b>	<b>Adjustments</b>	<b>Implementation Considerations</b>	<b>Year 2000/1</b>	<b>Year 2001/2</b>
<b>Objective 1</b> Target the work rate of client /server IT staff to improve the support quality, reduce risk and enable time for R&D projects	Client/server support has 6.6 FTEs with productivity of 75 PCS and servers per FTE	Client/server productivity is 47 PCS and servers per FTE	To match the upper quartile benchmark productivity the number of client/server FTEs should increase by 3.9 to a total of 10.5 FTEs	1. Increase IT staffing levels with the objective of improving the level of user satisfaction and reduce hidden user effort 2. See Objective 3 3. Ensure an adequate balance is made between reactive support and automation and technology projects 4. Reduce the number of servers by rationalisation on move to L/House	—	—
<b>Objective 2</b> Target the work rate of applications development and network staff to match the upper quartile	Applications development has 4 FTEs supporting 119 users each  Data network has 0.3 FTE with equivalent productivity of 1583 connected PCS per FTE	The Council benchmark for applications development is 95 users per FTE.  Data network productivity is 445 devices supported per FTE	To match the upper quartile benchmark productivity the number of application development FTEs should increase by 1 FTE to 5 FTEs. Network should increase from 0.3 FTEs to 1.1 FTEs	as Objective 1	—	
<b>Objective 3</b> Limit the number of new printers installed	The benchmark has 6.9 PCS sharing each black & white printer. At WDC this ratio is 1.9 PCS per printer	A target of 4 or 5 PCS per printer (depending on type of printer) should be used for the new building	WDC has 4 times as many printers as the benchmark. Savings can be made by redistributing the existing stock rather than buying additional printers	1. Identify print volumes across all departments 2. Identify high volume print areas and determine whether or not suitable printers are in place 3. Forecast future print volumes 4. Allocate existing printers according to current and future need	— ongoing	
<b>Objective 4</b> Introduce a charge	WDC has annual support	Best practice organisation aim	The net cost to the organisation of major	1. Understand the IT requirements of WDC via the	—	

## Information Technology Performance Plan

<i>Opportunity</i>	<i>Current performance</i>	<i>Target Performance</i>	<i>Adjustments</i>	<i>Implementation Considerations</i>	<i>Year 2000/1</i>	<i>Year 2001/2</i>
for a managed desktop	charges. However, WDC has periodic major capital investments to address specific needs. This can cause major change programmes and disruption to the organisation	to have an annual charge for managed desktop services which include capital costs. This enables older equipment to be replaced according to a defined life-cycle	capital projects and operational budgets for staff and software is the same as the annual cost per desktop. The difference is that the managed desktop approach has a rolling replacement schedule leading to higher quality services due to minimum disruption to the organisation	negotiated SLA 2. Develop a standard tariff to include the support and capital components 3. Develop a rolling hardware change programme 4. Provide a menu of additional, chargeable, services that the organisation may use	—	—
<b>Objective 5</b>  Maintain the high level of customer satisfaction	The overall satisfaction rating on last survey was 5.5 out of possible 7.	To aim for 5.8 out of 7.	To maintain rating with a view to exceed the upper quartile.	1. Survey 1 in 10 helpdesk jobs for feedback. 2. Survey post training courses. 3. Post implementation reviews on projects. 4. Annual customer survey of 10 critical questions from SOCITM survey. 5. Carry on implementing best practice procedures based on SOCITM recommendations. 6. Full SOCITM customer satisfaction survey	ongoing ongoing ongoing — ongoing	—
<b>Objective 6</b>  Integrate voice telephony and the data network.	Services are currently separate under IT and members Services.	Integrated network.		1. Explore existing technologies for combining voice and data network 2. Evaluate the best way of providing the service 3. Consider the technical implications of running a call centre	— —	—
<b>Objective 7</b>  Creation of new ICT Strategy	Current IT Strategy finished in 1998	New ICT Strategy	To write the new ICT Strategy with consideration to issues raised in consultant's	1. ITSG to consider Terraquest recommendations. 2. Implications of Invest to Save Bid.	—	—

## Information Technology Performance Plan

<i>Opportunity</i>	<i>Current performance</i>	<i>Target Performance</i>	<i>Adjustments</i>	<i>Implementation Considerations</i>	<i>Year 2000/1</i>	<i>Year 2001/2</i>
			report.			
<b>Objective 8</b> Create a combined document production centre.	The IT print function and central reprographics are in separate units		To create a managed service	1. Create a document Strategy/specification 2. Invite tenders for managed service	— —	