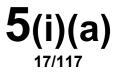Internal Audit Report
Corporate and Democratic Services
ICT Performance and Capacity Management
Assignment No.16-13
March 2017

Final Report

Finance Division
Corporate and Democratic Services
Perth & Kinross Council
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Internal Audit

"Internal Audit is an independent, objective assurance and consulting activity designed to add value and improve an organisation's operations. It helps an organisation accomplish its objectives by bringing a systematic, disciplined approach to evaluate and improve the effectiveness of risk management, control and governance processes". Public Sector Internal Auditing Standards (PSIAS)

On 27th March 2013, the Council's Audit Committee approved the PSIAS as the relevant standard for its Internal Audit activity.

Background and Introduction

This assignment forms part of the audit plan for 2016/17, which was approved by the Audit Committee on 30 March 2016. Audit testing was carried out in February 2017. The Council has approved a capital budget of £1,400,000 and a revenue budget for supplies and services of £1,307,797 for IT infrastructure for 2016/2017. The Service has a current capacity storage area network (SAN) of 130TB, with over 750 physical and virtual servers across the corporate and schools estate; 71% of the environment is virtualised.

Scope and Limitations

This audit focussed on the high level controls in place for the management of Information and Communication Technology (ICT) infrastructure capacity and performance to support the Council's front line services delivery and enhance engagement with people in Perth and Kinross Council area.

The scope of the review included live observation of the IT helpdesk system and processes for managing calls. A walk-through of the calls process was also undertaken to demonstrate the controls in place and a sample of calls logged by users during 2016-17 was provided as requested.

Live observation of Solarwinds, used to monitor the Council's wide area network, was also undertaken for a sample morning in February 2017. Mapping in a sample node (Kinross) showing the status of network objects, was evidenced in real time. Summary detail of the network and reporting of nodes by performance (top 10 nodes by average CPU load and average response times) were viewed as well as the top 10 application response times. IT Services' response procedures to alerts and events were described to illustrate processes for managing these.

Evidence of performance reporting of ICT over sample periods was provided for the review. Internal reporting by IT Service areas and also external independent reporting on performance by the IT Service was provided. These included Society of Information Technology Management (SOCITM) Surveys on User satisfaction and perceptions and also key metrics in the current financial year.

Key officers interviewed included the Corporate IT Manager and IT Service Manager (Operations), with additional information provided by the Communications and Network Team Leader and the Team Leader, IT Technical Support.

The audit did not review in depth the network and server infrastructure; desktop provision; the configuration management database (CMDB); the capacity database (CDB) and software and licensing. Areas previously reviewed in other recent audits were not included in the scope, for example IT service continuity management.

Control Objectives and Opinions

This section describes the purpose of the audit and summarises the results. A 'control objective' is a management objective that requires the maintenance of adequate and effective internal controls to ensure that it is achieved. Each control objective has been given a rating describing, on the basis of the audit work done, the actual strength of the internal controls found to be in place. Areas of good or poor practice are described where appropriate. Definition of adequate in the following control objectives is 'fit for purpose' or 'best fit'.

Control Objective 1: To ensure that framework and processes are in place for managing core ICT assets for the Council's requirements.

Audit Comments:

There is a framework in place to manage ICT infrastructure and resource, evidenced within the IT teams of PKC IT Services; these are -

- Web, GIS & Integration

- Server Infrastructure

- IT Technical Support

- Communications & Network

- Business Applications Support

- Customer and Business Services

- Capital Projects Team

Evidence of processes in place for managing core ICT assets was provided, including:

Weekly time resources were allocated against required services for each IT team. This was evidenced in sample Operations Team schedules, workloads and weekly diaries.

IT Services utilises products for managing capacity and performance tasks, for example, Solarwinds for the management of the Council network. An observation of this was carried out and relevant evidence was provided.

Processing helpdesk calls and incidents

As part of the review, an observation was made of the Help Desk product for managing IT calls. A sample walk through of a new call was provided to evidence the general process. In addition, a sample of live calls to IT Services was provided with detail of how these were managed by the team of technicians. It was reported that most of the IT technicians worked remotely in the field with their workload area rotated across different PKC areas to maximise awareness of work areas and call types. Each call is logged and categorised by priority level which has an expected response time or SLA for resolution which was satisfactory.

ICT Asset management

Sample evidence was provided of processes for managing the ICT Asset inventory and refurbishment of IT assets at two sample school sites (Methven and Cleish

Primaries). This confirmed the responsibilities for managing assets and included detailed computer replacement reports.

Strength of Internal Controls:	Strong

Control Objective 2: To ensure that performance and technology capacity management planning exists and is working adequately.

Audit Comments:

Good practice areas were found with regard to the performance and technology capacity management.

Management planning was found in place as follows:

In compliance with standard Council procedures and budgeting processes, planning processes included scrutiny and approval. The draft ICT Infrastructure Business Case high level summary included a breakdown of the main areas of expenditure over the 8 year programme to 2022/23 with a rolling programme of works for infrastructure improvement. This was put forward to the Corporate Resources Group (CRG). The Business Case was scrutinised by the Service Senior Management Team, then the CRG for scoring and scrutiny by the EOT. The final ICT Infrastructure budget was submitted for approval to the Strategic Policy and Resources Committee in June 2016. This included a review of the complete ICT programme dated June 2015. The Plan for the Council's core ICT capital infrastructure focused on four general areas:

• Network Infrastructure

• Server Infrastructure

• Desktop Provision

• ICT Software and licensing

ICT infrastructure improvement was planned to be achieved through a rolling programme of works to respond to changing organisational priorities, technologies and business needs.

The Council's budget and recent revenue and capital monitoring reports to the Strategic Policy and Resources Committee confirm that the IT Service is following targets set in the plan. These are publicly available in PKC committee papers on the website.

In addition, the Strategic Policy and Resources Committee approved a new Digital Strategy and associated Digital Strategy Development Plan in 30 November 2016 which identifies the Council's strategic digital approach for the next four years to 2020. Within this Plan are high level actions which include the IT Service developing and using ICT over the next four years to help the Council deliver strategic ambitions.

Strength of Internal Controls:	Strong

Control Objective 3: To ensure that performance and technology capacity reporting and assessment is carried out for the Council's core IT assets.

Audit Comments:

Good practice was found for reporting and assessment.

Reporting within IT Services

IT Services Operations Teams report weekly on priorities and planned work for the coming week and infrastructure changes for next two weeks. Reporting and monitoring of virtual desktops was evidenced by reports on average login times.

Monthly performance reporting is carried out for internal use, comparing overall service level to targets. This was evidenced in sample reporting provided for January 2017. This included the number of calls logged and responses against the targets, for example for no incidents more than a month old and no changes older than 3 months. Call types and First Contact Resolution percentages are reported and monitored. Reasons for significant change in call types and service level changes are recorded in the monthly report.

Contact methods are also recorded and monitored, for example the increase in use of the self-service portal. Other methods identified include phone contact, email - by team, and internal calls.

The monthly service level performance is reported and presented in graphic format for 13 months; this illustrates any trends across the year and allows for comparison against the same month in the previous calendar year. Service level performance for PKC Services is reported in a similar way and includes a more detailed two month calls analysis. IT Team performance is reported in the same way.

User satisfaction and perceptions

User satisfaction perceptions have been recorded and assessed in five independent surveys completed by the IT body SOCITM over the last seven years. These surveys capture detail of internal user satisfaction trends and have been benchmarked against average Scottish and UK perception ratings for public sector organisations. The latest report was carried out in November 2016 and was reported to users on the intranet (ERIC). Perceptions in the latest survey included a cross section of 1107 users ranging across strategic and tactical managers, operational staff, elected members, curriculum managers and staff and commissioners. Overall satisfaction reported in the 2015 and 2016 surveys indicated a higher than national average satisfaction rate:

-   In the 2016 survey, the Council's overall satisfaction rating was categorised as 5.13 out of a maximum of 7; the Scottish average rating in 2016 was 5.09.

-   In 2015, PKC's overall satisfaction rating was categorised as 5.22 out of 7; the Scottish average rating in 2016 was 5.03

This showed an improving trend from the previous surveys in 2013, 2011 and 2009.

A draft Communications and Engagement Plan was reported to be awaiting approval by the ICT Board in 10 March 2017; this plan intends to engage a wider

range of stakeholders including citizen engagement on their experiences of using the Council's online services through the Council's website.

Benchmarking analysis and reporting

Benchmarking analysis based on ICT Services key metrics was also carried out by SOCITM in 2016 to provide more detailed evidence of ICT Services performance against 10 Scottish Councils. Key metrics included ratios and statistics, for example the percentage operational incidents when a service is restored within the agreed service levels (in the SLA) and Networks and key applications availability index. Metrics also incorporated costs, percentages and other statistics, for example the number of agile workers as a % of all ICT service users and the number of devices per user. These benchmarking statistics by the independent SOCITM service confirm analysis for reporting and service evaluation is in place.

Management of Incidents

Sample evidence was provided to confirm management of incidents processes and reporting. Three incident details during 2016-2017 were provided for different Service areas, of which two were resolved and one was closed. The reporting confirmed calls by category and priority type. The priority type included expected response times for each incident. The log detail included date and times for each incident by creation date (presentation of incident) and date and time the incident was last updated or closed. Analysis of response times by the ICT Services can be monitored through the incident logs by type.

Asset register management reporting

Sample reporting of ICT asset management was evidenced in correspondence on the management of ICT assets for 2 sample schools sites - Methven and Cleish Primaries. Evidence was provided to confirm the responsibility for maintaining the ICT asset inventory on-site during the 5 year asset replacement programme. The sample asset inventory for each site was provided. As computers over 7 years old are no longer supported, schools were invited to request a share of newly refurbished PC base units as replacement for PCs and laptops over this date.

This evidence also illustrated that Head Teachers were advised of the importance of updating the PC estate in their school whilst maintaining ratios to deliver specific curricular programs.

An observation of the Service Desk Management System found that information could be filtered in searches by device type and location ensuring that there is useful management information for the management of the IT assets.

Strength of Internal Controls:	Strong

Management Action and Follow-Up

Responsibility for the maintenance of adequate and effective internal controls rests with management.

No action points have been identified in this review for a response.

Acknowledgements

Internal Audit acknowledges with thanks the co-operation of the Council's Corporate IT staff involved during this audit.

Feedback

Internal Audit welcomes feedback from management, in connection with this audit or with the Internal Audit service in general.

Distribution

This report will be issued to:

B Malone, Chief Executive

J Valentine, Depute Chief Executive, Environment (Sustainability, Strategic and Entrepreneurial Development) and Chief Operating Officer

A Taylor, Head of Corporate IT & Revenues

K Wilson, Corporate IT Manager

J Symon, Head of Finance

K McNamara, Head of Strategic Commissioning and Organisational Development

L Simpson, Head of Legal and Governance Services

G. Taylor, Head of Democratic Services

P Dickson, Complaints & Governance Officer

External Audit

Authorisation

The auditor for this assignment was N Duncan. The supervising auditor was J Clark, Chief Internal Auditor.

This report is authorised for issue:

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Jacqueline Clark
Chief Internal Auditor
Date: 1 March 2017