# Trinity College Dublin

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# Provost's Report to Board on the Review of Information Systems Services

**October 2012**

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# 1. Introduction

This report presents the outcome of a quality review of the Information Systems Services (IS Services) department at Trinity College Dublin. An external peer review visitation was undertaken from the 15th – 17th May 2012 by Mr. Mike Roberts, IT Director, University of Warwick, UK; Dr. Phil Richards, IT Director, Loughborough University, UK; Mr. Stephen Hughes, Resources Global Professionals, Ireland and Mr. Ian Shiel, IS Consulting, Ireland. The internal facilitator was Ms Anne Fitzgerald, Trinity College Dublin.

This report is based on (i) feedback from the External Reviewers received on the 30th July 2012, (ii) a submission from the Head of IS Services received on the 18th September 2012 and (iii) a submission from the Chief Operating Officer (COO) received on the 19th September 2012.

The main purpose of the review is (a) to provide a structured opportunity for the area to reflect on its activities and plans for development, while benefiting from a constructive commentary by senior colleagues external to College; (b) to ensure that quality and standards in administration, management and service provision are being maintained and enhanced and that areas of concern in this regard are identified and addressed.

# 2. Overview of the Area

## 2.1 Structure & Function

IS Services is responsible for the planning, delivery and support of the College's main computing facilities. This includes the College's network systems, web infrastructure, email and calendaring, management information systems, student computing facilities, some research infrastructure and High Performance Computing. IS Services also provides support for teaching and learning in a number of lecture theatres and seminar rooms on and off campus, and also provides a video capture/production service and a photographic service. Staff and students are provided with full IT support via the IT Service Desk and a wide range of IT training is also available either online or face to face. The department also runs a Programme Management Office (PMO) for all IT projects in line with College Board policy and provides significant support to the College's enabling Strategy (e-Strategy). There are currently 16 major IT projects in progress. The department supports 25,000 users on the main campus and in 25 remote sites including two large hospital medical centres at St. James and Tallaght, and supports over 1,200 wireless access points and 20,000 fixed wired network points.

## 2.2 Staffing

The current (2011/12) staffing complement amounts to 86 staff (77 fulltime equivalents (FTEs)). Of these, 79.1% are on administrative grades, 2.3% are on executive officer grades, 15.1% are on technical grades and 3.5% are research staff. In 2002, The Audio Visual Media

Service was merged with IS Services, and in June 2011, the Centre for High Performance Computing was integrated with IS Services which brought the staffing levels to the current levels.

### 2.3 Accommodation and Facilities (Physical Resources)

The department is spread over four buildings. The largest number of staff is housed in 200 Pearse Street which also houses the College's main Data Centre. The Support Service and Helpdesk is based on the ground floor of Aras an Phiarsaigh and the Audio and Visual and Media Services has floor space on the third and fourth floor of the Arts Building. The recently integrated High Performance Computing team work from the Lloyd Building. These buildings are geographically dispersed and this makes the optimum running of the department and the sharing of knowledge difficult. It is also confusing for end-users.

IS Services operates a number of computing labs for student and academic use on the main campus and on remote sites. The space allocation to IS Services is 1573.44MSq. Most of this space is on campus. However, this allocation includes over 150 data communication rooms which include a number on 26 remote sites including major buildings at St. James and Tallaght hospitals; the new Biomedical Sciences building in Pearse Street; and 20 Student Computing facilities providing over 1,000 student computers on campus and 5 off campus locations.

## 3. Reviewers' Recommendations

The Reviewers make the following recommendations:

(1) The College's Information Strategy should include the centralisation of all "commodity" IT/IS functions and services (including business analysis) within the new Information Systems remit with only leading-edge research and specialised IT in the schools with a policy of integrating back into central IS if/when the technology becomes mainstream.

(2) As the Chief Information Officer (CIO) will be the architect of and will hold accountability for the delivery of the College's Information Strategy, their appointment should precede the production and publication of the Information Strategy document itself. Moreover the strategy should reflect the seniority and reach of the CIO role as envisaged by START and not be restricted to the current remit of the Director of ISS. It needs to be realistic and take the current economic difficulties fully into account in order to avoid the accusations of being 'aspirational in nature' and unachievable in reality.

(3) Clearly it is a matter for the College to determine the exact responsibilities of the CIO and the most appropriate reporting line, including whether the CIO is a member of the College's most senior management team. However, it is the opinion of the Review Panel that a strong, comprehensive, senior CIO role is key to future success.

(4) Candidate replacement systems must incorporate plans and funds to ensure that the large number of diverse, legacy applications are properly maintained, upgraded and eventually decommissioned to prevent a recurrence of this situation in the future.

(5) There is a need to conduct, and document, a comprehensive inventory of IS skills by individual and team. This should be undertaken within ISS and also incorporate the IS/IT staff that are currently assigned to individual Schools. This analysis should identify the skills that are currently needed and that are in place to support the existing legacy systems (as-is) and also the skills that will be required to develop and support new and future systems (to-be). The analysis should include an indication of when existing legacy skills will no longer be required (when the systems which rely on those skills are due to be discontinued).

(6) Consideration needs to be given as to appropriate professional training and certification for staff. For example, while the need for ITIL Foundation level training has been identified it is not clear whether recipients of this training are required to pass the certification exam or whether certain individuals will need more advanced training and certification (e.g. ITIL Intermediate or Expert qualifications).

(7) Continued membership of an IT industry consortium, such as the Innovation Value Institute (IVI) and the timely adoption of an industry standard framework such as the IT Capability Maturity Framework and other models developed by the IVI to guide the evolution of IT Management at TCD is recommended.

(8) Expand the application of Programme Management Office (PMO) best practice to non-IT projects.

(9) Develop a version of the project management methodology that accommodates lower governance requirements for lower risk projects.

(10) Project managers for future large scale projects should be recruited into the Programme Management Office (PMO) to ensure that a standard methodology and approach is utilised across all appropriate College projects. In addition, in order to assist with the diffusion of skills and experience across ISS, each Project Manager should mentor a more junior/inexperienced PMO member through an agreed professional development program.

(11) Consideration should be given to integrating the technical support activities of the well regarded Virtual Learning Environment (VLE) and GeneSIS support teams into ISS and providing a single point of contact – the Helpdesk – to handle, record (log) and effectively route, escalate and manage all IT/IS support queries. In addition, IT/IS support staff currently assigned to individual Schools and performing 'commodity' or standard IT support/services should be (re)integrated into ISS to ensure appropriate professional development, adherence and alignment to central ISS strategy and succession planning.

(12) In the interests of transparency it is recommended that a simple table containing the title, requestor, awarded score, status and next stage gate review date be published on the TCD ISS PMO website along with the detailed project scoring method.

(13) The commodity/complexity model presented as diagram 4.1 in the Reviewers' Report (or a similar alternative model) should be adopted as a useful tool for determining location and sourcing of IS/IT service provision.

(14) It follows from 13 above that all commodity IS/IT services should be provided from the centre through ISS, via an appropriate sourcing arrangement to ensure lowest total cost, to the required quality, and via an appropriate funding model (e.g. a combination of central 'top-slice' funding and recharges to Schools based on measures of use).

(15) It is appropriate for complexity IS/IT services to be provided either in the Schools or from the centre (through ISS) provided duplication is avoided.

(16) Alongside transferring responsibility for the VLE to sit under the new CIO role (as per the START Report), consistent use of the central VLE by all Schools and in all programmes should be mandated by a 'VLE minimum presence policy' owned by College Learning and Teaching Committee, and reviewed annually.

(17) Clear mechanisms for tracking benefits realisation should be incorporated into all project plans for major IS/IT projects (e.g. Financial Information Systems (FIS), GeneSIS) to ensure promised Return On Investment (ROI) is delivered through achieving real, quantifiable and cashable savings.

(18) Consideration should be given to transferring responsibility for all commodity IS/IT activities to ISS, as outlined in Section 4.2 of the Reviewers' report, under the lead of the new CIO role.

- In the case of all support services, and Schools with little or no complexity/specialist IS/IT function, this should involve the formal transfer of the staff involved to ISS, with any exceptions being explicitly authorised by the Library and Information Policy Committee (LIPC) and reviewed annually.

- In the case of Schools with genuine complexity/specialist IS/IT function, the specialist function should be retained locally, and functional responsibility for the generic service should be transferred to ISS, to be achieved either by formal transfer of staff, or by the pragmatic 'dotted line report' model described in the Reviewers' report.

(19) The issue of perceived disparity of grading of IS/IT staff be fed into the drawing-up of an over-arching HR strategy, as recommended by the START Taskforce.

(20) All IS/IT activities, commodity and complexity, should be captured in a Total Cost of Ownership (TCO) evaluation, complied by the CIO on behalf of the LIPC, and annually reviewed and benchmarked against comparator HEIs, as a key mechanism for identifying and eliminating duplication, feeding into the College planning and budget process, and continually improving IS/IT service.

(21) All commodity IS/IT activities should be defined and provided to all TCD Schools and support services via an annually-reviewed Service Catalogue, compiled by the CIO on behalf of LIPC and with its senior-level sponsorship, defining the required quality of these services, their sourcing, and charges where appropriate.

(22) Sourcing decisions (particularly to outsource) should be transparent to service users, with a seamless service provided, and ISS and Purchasing taking full responsibility for supplier management and Service Level Agreement (SLA) compliance.

(23) Sourcing decisions for Service Catalogue entries (e.g. insource, outsource, shared service) should be owned by LIPC. These decisions should include due consideration of risk, and a clear exit strategy for all outsourced services.

(24) IS/IT-related entries in the top-level TCD risk register should be reviewed and updated as required in light of these changes.

(25) Develop further the application of advanced Service Management methods – specifically consider the adoption of more formalised, and standardised, ITIL methods.

(26) Consider the introduction of (Lean) Six Sigma skills – to drive data and outputs-led service improvements.

(27) The drop in centre was highly valued but some users commented that opening hours were inconsistent and confusing. ISS might consider the use of an outsourced service provider in this area as other HEIs have found benefits in this approach.

(28) The wireless service is clearly a source of concern for both users and ISS, especially access for mobile devices. It is noted that ISS is currently addressing this issue – in doing so it might consider the balance between necessary security and user experience. The existing access mechanisms for wired and wireless networking were considered cumbersome and unreliable. ISS should continue to consult with other HEIs to consider if alternative mechanisms and approaches might be usefully applied to TCD.

(29) Support for individual computers might also be considered. Some users suggested the provision of a standard computer with simplified ordering, delivery, a standard desktop image, preloading of applications, a simple data transfer mechanism, 'welcome to your machine' support, removal of old equipment and packaging – a sort of 'no hassle, we'll take care of everything' offering. It is noted that ISS currently creates Windows XP, Window 7 32bit and Windows 7 64bit standard images which are available on all new Windows workstations purchased via the College Desktop supplier and this support could be extended to include other services. Additionally support for Mac users could be expanded, a response to the growing number of users adopting the Apple range of products.

(30) TCD currently uses different email systems for staff and students. It would be beneficial in terms of simplification and reducing the number of skills required by support staff, if the College could standardise on a single system.

(31) The outsourcing of the printing service is an innovative and potentially highly beneficial development – a number of other HEIs are looking to expand this type of

offering beyond student printing to staff provision as well. However, the branding and public face of this service needs serious consideration, as there is a perception of ISS 'pushing away' users to the 3rd party provider and, to some extent, washing its hands of the relationship.

(32) In any outsourcing arrangement it is critical that ISS remain the public face of the service and hold total responsibility for its performance. External vendors have many positive contributions to make to internal service provision – but always through ISS.

The Reviewers make the following additional recommendations:

(33) Several interviewees identified the issue that it is not always apparent who should be contacted for support in the first instance. Student support is split between (at least) three points of contact (printing, general helpdesk queries and connectivity clinics) with the Helpdesk providing initial support to students. It is currently proposed that SUSU will handle first line support for the new student information system (GeneSIS) with ISS providing technical support. Some VLE support is currently provided by ISS, specifically support for AD authentication to this service and for the necessary configuration of student's own devices to access the VLE. In addition, business analysis for major strategic projects is being provided outside of the ISS organisation (GeneSIS). This results in a fragmented approach with no single point of ownership and creates additional 'silos of IT' in the College. Roles and responsibilities need to be better communicated outside of IT to student and staff customers.

(34) The panel feels a central mechanism to track and report on any emerging duplication is required to allow for consensus for any move to a central specialist model to emerge at an early stage.

(35) ISS already publishes a set of Key Performance Indicators (KPIs), however the usefulness of these metrics should be considered. At present the metrics appear to focus on underlying technical performance and while these measures are of interest and use to service providers (e.g. service availability), they are not always meaningful for users, nor do they provide a true representation of user experience. In addition, different measures may more accurately measure overall impact on the institution. It is strongly recommended that the development of appropriate metrics is undertaken as any progress in this area is better than producing measures that no one really values.

# 4. Provost's Recommendations to Board

**4. Provost's Recommendations to Board**

In light of the Review Report and the responses from the Head of IS Services and the Chief Operating Officer (COO), it is recommended that:

(1) The Head of IS Services working closely with the Chief Operating Officer and other relevant College Officers, should consider the detailed recommendations of the Review Report and draw up an Implementation Plan[1] for Board approval.

(2) The Chief Operating Officer convenes a high level small team, including external members, to develop an IT strategy for the College as per the START recommendations, prior to the recruitment of a CIO (Chief Information Officer).

(3) Clear mechanisms with regard to incorporating and tracking benefits realisation for eStrategy projects should be developed in conjunction with HR. This is to ensure promised return is delivered through achieving real and quantifiable savings.

[1] See Procedures and Protocol for Quality Review of Administration and Support Services 2011/12 at *http://www.tcd.ie/vpcao/quality/assets/pdf/Procedures_and_Protocol_for_Quality_Reviews_of_Administrative_and_Service_Areas.pdf*

# 5. Reviewers' Report

## 1. Background

**1.1** The Quality Review of Information System Services (ISS) took place between 15th and 17th May 2012 with a review team comprising Mr. Mike Roberts, IT Director, University of Warwick, Dr. Phil Richards, Director of IT, Loughborough University, Mr Ian Shiel, IS Consulting, Ireland, and Mr Stephen Hughes, Resources Global Professionals.

**1.2** Prior to the Review, the Team received an extensive pack of information central to which was the self-assessment document, the production of which was co-ordinated by the Quality Office.

Supporting documentation included, but was not limited to:
ISS Self Assessment Report, May 2012; the TCD Strategic Plan 2009 - 2014; the PA Consulting Group Report 2009 (High-Level Review of Information Systems Services and High Performance Computing functions – Final Report); IS Services – Assessing College Staff and Student Satisfaction with ISS.

During the course of the review, additional documentation was provided reflecting further material and new material requested by the Team, including, but not limited to: The Board Proposal for the provision of an enterprise-wide Financial Information System; the START Taskforce Report to Board, 28th March 2012 (Draft); multiple project documentation from the GeneSIS and FIS projects.

**1.3** The overall organisation of the review by the Quality Office was excellent and the Review team are extremely grateful to the Office for its support, arrangements and management of the visit. In particular, the team would like to acknowledge its appreciation to Ms Anne Fitzgerald, the internal TCD facilitator, for her excellent advice and assistance throughout the review.

**1.4** The schedule of meetings was comprehensive - a large number of meetings were held with multiple participants.

**1.5** The terms of reference of the review were to:

i) Evaluate the quality of service offered;
ii) Ensure that service provision and administrative activities are in line with the overall mission and strategic objectives of College;
iii) Assess client/stakeholder satisfaction;
iv) Benchmark services against institutional comparators;
v) Identify and promote best practice;
vi) Obtain constructive commentary and advice on the strategic direction of the Area.

## 2. Introduction and General Impressions

**2.1** The overall impression of the Information System Services department is that it is providing a good service, which on the whole is appreciated by the users of the service, in a situation where there are currently significant resource constraints, and where these constraints are expected to become even more demanding in the future.

**2.2** The integration of the High Performance Computing (HPC) function into ISS, as recommended by the PA report in 2009, seems to have been successful, in that the combination of the two units has created synergies through the cross transfer of skills and best practices.

**2.3** The interaction between the users and the Helpdesk / Drop-in Centre is largely positive, with the majority of users satisfied with the service that they receive. This is due in a large part to the obvious commitment and enthusiasm of the ISS personnel.

**2.4** The instilling of strong project management disciplines through the introduction of the Programme Management Office (PMO) has quickly built confidence within ISS, and more importantly the user community, in the ability to deliver projects to plan. Indeed, the involvement of the PMO, together with a strong dedicated project manager, is considered by most to be an integral part of the success to date of the Financial Information System (FIS) Project.

**2.5** It is noted that the issue of an absence of an approved Information Strategy, as identified in the 2009 PA Report, is currently being addressed by the Director of ISS and that the START report recommends the appointment of a CIO with a wide remit incorporating responsibilities for Education and Research in addition to Campus IT.

## 3. Organisation, Structure and Skills of ISS

### 3.1 A College-wide Information Strategy and the Proposed Role of Chief Information Officer (CIO).

#### 3.1.1 Information Strategy.

There is a prevailing culture of autonomy throughout TCD, where points of contact for IT/IS support are spread over the Schools or appear in different administrative units. In addition, the staff providing these services are on different grades to equivalent roles in ISS. Indeed, the current Director of ISS does not have responsibility for Education or Research IT needs. A number of these shortcomings

have been identified in the PA and START reports as well as in the ISS's self assessment document provided as input to this review.

An Information Strategy is currently being prepared for the College by the Director of ISS but the draft document was not made available to the panel at the time of the review as it had not yet been discussed internally.

*Recommendation(s):*

- This strategy should include the centralisation of all "commodity" IT/IS functions and services (including business analysis) within the new Information Systems remit with only leading-edge research and specialised IT in the schools with a policy of integrating back into central IS if/when the technology becomes mainstream.

### 3.1.2 The Proposed Role of CIO.

There is a concern that the College IS Strategy is being prepared prior to the appointment of the CIO, proposed in the START report. The SWOT analysis presented in the ISS Department's self assessment refers to the absence of a CIO with a key decision making role (at the top table) as being a major threat.

*Recommendation(s):*

- As the CIO will be the architect of and will hold accountability for the delivery of the Information Strategy, their appointment should precede the production and publication of the strategy document itself. Moreover the strategy should reflect the seniority and reach of the CIO role as envisaged by START and not be restricted to the current remit of the Director of ISS. It needs to be realistic and take the current economic difficulties fully into account in order to avoid the accusations of being 'aspirational in nature' and unachievable in reality.

- Clearly it is a matter for the College to determine the exact responsibilities of the CIO and the most appropriate reporting line, including whether the CIO is a member of the College's most senior management team. However, it is the opinion of the Review Panel that a strong, comprehensive, senior CIO role is key to future success.

Regarding the attributes of the CIO, the key challenge will be to identify and appoint a results-focused individual who understands the needs of a modern HEI, is determined to drive an agenda of standardisation, efficiencies of centralisation and service excellence and who also has the people management skills, presence and ability to be accepted by, to influence and convince a very diverse group of stakeholders not only of the need to change but also the direction that change should take.

In addition this person will need to have the full support of and be seen to represent the College's most senior management team. Without this support they will be seen to lack the authority that will be needed to effect and implement change and ensure compliance with policy decisions. As well as a strong individual in the role, s/he must be supported by a determined and resolute senior management team who will agree and drive a change agenda throughout the College with an expectation that while others may disagree with aspects of the approach they will commit to ensuring the timely and successful implementation of agreed decisions.

### 3.2 Large number of Diverse, Legacy Applications and an Over-reliance on Key Experienced Staff.

TCD currently runs a number of applications and technologies that are no longer supported by the vendor and the only source of support is internally within ISS. Progress in retiring and decommissioning these old systems has been slow and the current situation where some mission critical production systems can only be supported on a 'best-endeavour' basis by internal ISS staff presents a major risk to the College. IT support out of hours is not formally provided for and relies on the goodwill and loyalty of staff.

While this commitment and loyalty is to be highly commended it is no longer an appropriate means of providing support given the needs of the College. In addition, ISS must maintain the skills to support these legacy systems and in some cases needs to train additional staff to ensure that continuity of support is provided. It is accepted that the legacy applications will be replaced over time - freeing up staff time and resources, but at the same time it is important to recognise that this will be a slow process - for example it is expected that ISS will not be in a position to fully decommission and de-support the Admin5 student system until the GeneSIS project is fully implemented in 2014.

ISS are also supporting a large number of diverse technologies with limited standardization, for example multiple versions of Windows and iOS (Mac) desktop operating systems are supported. In addition there have been requests to support Linux desktops and if mobile devices are to be included at least another three different platforms can be added to this already complex mix. These factors all contribute to the existing skills bottleneck and increases risk due to over reliance on a few key staff members who are being stretched over too many areas and applications. The requirement to support both GeneSIS and Admin5 for an extended period of time will further increase dependence on key individuals and risk to the College and every opportunity to progress the implementation of GeneSIS should be explored.

*Recommendation(s):*

- Candidate replacement systems must incorporate plans and funds to ensure that they are properly maintained, upgraded and eventually decommissioned to prevent a recurrence of this situation in the future.

### 3.3 Skills Inventory (Current and Future) for all ISS and Schools IS/IT staff.

A process of skills development has begun in ISS and a draft Staff Development and Training Plan dated May 2012 was provided to the review panel. Enterprise Architecture, Project Management, Oracle and SQLServer database management, virtualization and SharePoint development requirements have been identified. New staff, with the required new skills, are being recruited to aid in the introduction of new technologies to the department. While it is acknowledged that this work is in progress it appears to be limited to an inventory of third level qualifications and courses attended by individual, an identification of high level training and development needs confined to ISS.

*Recommendation(s):*

- There is a need to conduct, and document, a comprehensive inventory of IS skills by individual and team. This should be undertaken within ISS and also incorporate the IS/IT staff that are currently assigned to individual Schools. This analysis should identify the skills that are currently needed and that are in place to support the existing legacy systems (as-is) and also the skills that will be required to develop and support new and future systems (to-be). The analysis should include an indication of when existing legacy skills will no longer be required (when the systems which rely on those skills are due to be discontinued).

This information can be used to create a skills matrix to assist with identification of individual, group/team and College development requirements as well as any skills/knowledge gaps. Once compiled, it will have to be updated regularly to reflect progress and to add new requirements. It is important that specific courses/qualifications be identified (for example PRINCE2 Foundation, Practitioner, TOGAF, Lean Sigma process management, IT-CMF, Software Application testing techniques etc.) as foundation level courses may suffice for some whereas more advanced material will be required for others.

Certification provides benefits both to the individual (in the form of verified up-to-date, transferrable professional skills) and to TCD (confirmation that the holder has sufficient knowledge of the material as determined by an external body).

*Recommendation(s):*

- Consideration needs to be given as to appropriate professional training and certification. For example, while the need for ITIL Foundation level training has been identified it is not clear whether recipients of this training are required to pass the certification exam or whether certain individuals will need more advanced training and certification (e.g. ITIL Intermediate or Expert qualifications).

### 3.4 IT Leadership & Management Development

The effective management of IT has never been more challenging and many IT organisations, including ISS, are being asked to do much more with a lot less. IT leaders can make use of proven tools, processes and metrics to measure the total capability of their IT organisation and to achieve a value driven and professional approach to IT management. It is noted that TCD joined the Innovation Value Institute (IVI) in November 2011 in order to gain access to and share best practice.

*Recommendation(s):*

- Continued membership of an IT industry consortium, such as the IVI, and the timely adoption of an industry standard framework such as the IT Capability Maturity Framework and other models developed by the IVI to guide the evolution of IT Management at TCD is recommended.

### 3.5 Programme Management Office

The Programme Management Office (PMO) should be viewed as an excellent development. A robust, disciplined PMO is a great strength for any institution and the implementation at TCD has clearly brought benefits. The use of standard methodologies, documentation and governance tools reduce project risk, increase the likelihood of benefits realisation and allow for more efficient use of resources.

It is apparent that the PMO has already had a positive effect on a number of IT projects. However, it was suggested by a number of representatives that many non-IT projects would benefit from the application of a similar approach to their project governance. Clearly, some specialist projects (e.g. major construction projects) require specialist project management, however, TCD should seriously consider either expanding the remit of the PMO to manage non-IT projects, or to reproduce the PMO function and practices in other non-IT areas. If the latter approach is taken then care should be taken to avoid confusion around where projects should be taken or to avoid divergence in procedures and project management methodologies.

Governance of any process brings with it a degree of overhead and bureaucracy. This is unavoidable, and the associated cost is justified by the reduction in risk. It is important that governance is balanced against risk – if risk is low then a lower level of governance should be applied. A number of interviewees questioned if this balance was being achieved in all cases. It was mentioned that on occasions the PMO could be a little inflexible, applying the same degree of governance to small projects as to large projects. However, it should be recognised that small projects do not necessarily mean 'low risk' and it may be entirely appropriate to apply full governance to even very small (in terms of resources) projects.

It should be considered whether an alternative governance process should be developed for low risk initiatives – i.e. a clear, structured management process but with a lower requirement for documentation detail.

*Recommendation(s):*

- Expand the application of PMO best practice to non-IT projects
- Develop a version of the project management methodology that accommodates lower governance requirements for lower risk projects

### 3.6 The Future Structure of the PMO.

The FIS and GeneSIS Project Managers report to the respective Sponsors and Project Boards. The PMO reports on progress of each project to the Project Management Group.

*Recommendation(s):*

- We recommend that project managers for future large scale projects be recruited into the PMO to ensure that a standard methodology and approach is utilised across all appropriate College projects. In addition, in order to assist with the diffusion of skills and experience across ISS, each Project Manager should mentor a more junior/inexperienced PMO member through an agreed professional development program.

### 3.7 Single Point of Contact for all IT/IS Support Issues.

Several interviewees identified the issue that it is not always apparent who should be contacted for support in the first instance. Student support is split between (at least) three points of contact (printing, general helpdesk queries and connectivity clinics) with the Helpdesk providing initial support to students. It is currently proposed that SUSU will handle first line support for the new student information system (GeneSIS) with ISS providing technical support. Some VLE support is currently provided by ISS, specifically support for AD authentication to this service and for the necessary configuration of student's own devices to access the VLE.

In addition, business analysis for major strategic projects is being provided outside of the ISS organisation (GeneSIS). This results in a fragmented approach with no single point of ownership and creates additional 'silos of IT' in the College. Roles and responsibilities need to be better communicated outside of IT to student and staff customers.

*Recommendation(s):*

- It is recommended that consideration be given to integrating the technical support activities of the well regarded VLE and GeneSIS support teams into ISS and providing a single point of contact – the Helpdesk – to handle, record (log) and effectively route, escalate and manage all IT/IS support queries. In addition, IT/IS support staff currently assigned to individual Schools and performing 'commodity' or standard IT support/services should be (re)integrated into ISS to ensure appropriate professional development, adherence and alignment to central ISS strategy and succession planning. See Section 4.4 below.

### 3.8 Project Approval, Prioritisation and Status.

Several interviewees expressed the concern that they were unclear as to the scoring method used to approve and prioritise projects, which projects have been approved and the current status of projects. An outline of the request and approval process is published on the TCD ISS PMO website.

*Recommendation(s):*

- In the interests of transparency it is recommended that a simple table containing the title, requestor, awarded score, status and next stage gate review date be published on the above mentioned website along with the detailed project scoring method.

## 4. Value for Money, Duplication and Risk

### 4.1 Commodity versus Complexity for Provision of IS Services

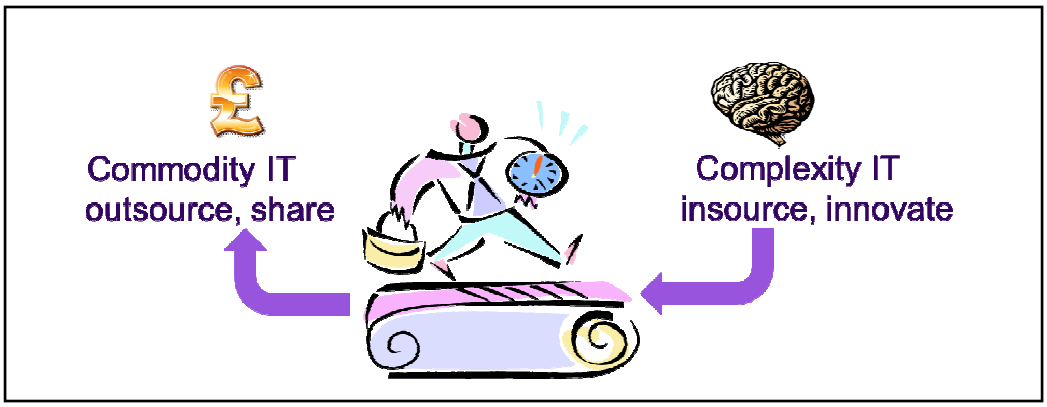


*Diagram 4.1: Commodity/Complexity model for IS/IT provision*

The above model is employed in the IS/IT Strategy of a number of HEIs, including Loughborough University, and is a useful tool in terms of focusing attention and building consensus as to where particular IS/IT-related activities are best placed and delivered within a complex, devolved HEI. The key points include the following:

- Complexity IS/IT activities are those which add genuine value, competitive advantage and differentiation to the core business of the institution, e.g. activities relating to research and teaching. It must be possible to encapsulate 'academic value' within such activities, and the appropriate measures relating to success are often qualitative.
- Commodity IS/IT activities are those which are generic in nature, i.e. where it is not possible to encapsulate 'academic value' into the activity. The emphasis is on providing the commodity service at the required quality and lowest possible total cost across the entire organisation, via the most economically advantageous means, removing any existing duplication, e.g. via shared service, outsourcing, etc.
- The above diagram illustrates the dynamic nature of the model: today's complexity IS/IT service will become tomorrow's commodity service. For example, in the 1980s the ability to provide email was new, a differentiator able to improve national and international communication and collaboration in niche academic research areas, and therefore genuinely a 'complexity' activity; today email is generic and a clear commodity IT activity.

### 4.2 Managing Change as Today's Complexity becomes Tomorrow's Commodity

It is not uncommon in devolved, collegiate HEIs that an activity that was genuinely 'complexity' at the time it was initiated continues to be managed as such well beyond the point at which it has become a 'commodity' service, leading to duplication and therefore provision of the commodity service at a higher cost for the University as a whole (although devolved budget arrangements may mask this).

If we use email as an example, individual Schools may retain their own email service and therefore duplicate the centrally provided service. In addition a separate central email service for staff may be provided alongside that for students, leading to further duplication of effort. The underlying cause of this situation may be as simple as the same individual who set up the service as a genuine speciality at the time still performing the same role and being unwilling to hand it over; or it may be a more subliminal collective desire (including users) to retain local 'control' over a particular activity; or mistrust of 'the centre' to deliver the commodity service to the required standard; or more likely some combination of the above.

What is apparent in the majority of research-orientated HEIs, is that the change from activities being managed as 'complexity' to 'commodity' does not tend to happen spontaneously. A continual mechanism or process is needed to drive this change, enabling commodity activities to be provided to the required quality at lowest cost, delivering quantified savings, and releasing capacity in Schools to embrace the new complexity activities coming on stream that will in turn provide tomorrow's competitive advantage and differentiation. A possible such mechanism is suggested in Section 4.5 below.

It is noted this model was tested by the review panel among all the various tiers of stakeholder at TCD, and while there was variation in views of precisely how it might be applied, there was agreement from all for the underlying principles.

*Recommendation(s):*

- The commodity/complexity model presented above in Diagram 4.1 (or a similar alternative model) should be adopted as a useful tool for determining location and sourcing of IS/IT service provision.
- It follows from the above that all commodity IS/IT services should be provided from the centre through ISS, via an appropriate sourcing arrangement to ensure lowest total cost, to the required quality, and via an appropriate funding model (e.g. a combination of central 'top-slice' funding and recharges to Schools based on measures of use).
- It is appropriate for complexity IS/IT services to be provided either in the Schools or from the centre (through ISS) provided duplication is avoided.

In relation to the last recommendation above, there are areas of complexity IS/IT that relate solely to the specialist academic work in one School (or maybe in one research group within one School), and these are quite rightly placed locally. The review panel also observed excellent complexity IS/IT services delivered centrally, e.g. High Performance Computing (HPC), which presumably had begun as a set of separate specialist activities within Schools, and had subsequently been brought together as a specialist cross-School unit, then finally had been integrated into ISS, bringing its reputation and high standards with it, and allowing these to diffuse through the wider ISS organisation.

The panel feels a central mechanism to track and report on any emerging duplication is required to allow for consensus for any move to a central specialist model to emerge at an early stage, and a suggestion of how to achieve this is made in Section 4.5 below.

The panel noted that the central Virtual Learning Environment (VLE) was itself close to becoming a model centrally-provided complexity IS/IT service: the transition would be completed by standardising on the central VLE platform across all Schools and programmes, and the adoption of a 'VLE minimum presence policy' across all TCD teaching activities, this policy being owned by the College Learning and Teaching Committee and reviewed annually. This would also address negative comments made to the panel by students regarding their perceived lack of VLE consistency at present. The new CIO role, taking wider responsibility for academic information, including VLE as proposed in the START report, should help complete this VLE transition.

*Recommendation(s):*

- That alongside transferring responsibility for the VLE to sit under the new CIO role (as per the START Report), consistent use of the central VLE by all Schools and in all programmes should be mandated by a 'VLE minimum presence policy' owned by College Learning and Teaching Committee, and reviewed annually.

Where a specialist service is being provided by a School, consideration should be given to whether ISS is better placed to support the continuity of the service. For example, ISS could offer hosting and backup of hardware and virtual servers on VLANs as part of its commodity service catalogue while the responsibility for the specialist application software remains within the School.

### 4.3 The Incorporation of Central Corporate Systems and Related Change Projects into this Model

In order to apply this model across the Central Corporate Systems and Related Change Projects, focus needs to be given to the specific information system and the associated set of processes, and the extent to which these encapsulate academic processes that are unique to TCD, a part of its competitive advantage.

From the information presented to the panel, the Finance Information System (FIS) project appeared to be commodity in nature, with the system and processes involved not being unique to TCD, or encapsulating its unique academic values, and fitting with a key FIS objective of transferability and being a reference project within the sector. It follows under this model that the emphasis for a project such as FIS should be on delivering lowest cost at appropriate quality, through a 'hard' business case including clear, quantifiable and tangible savings that should be tracked to ensure realisation of the agreed return on investment. It is noted that the Board Proposal for FIS (May 2012) articulated significant potential savings in the area of 'staff time released', and it is suggested under this model that a clear benefits realisation and tracking plan is needed to turn this time saved either into real, quantifiable and cashable savings or clear evidence of new, value-added work undertaken by staff, as opposed to displacement activities to fill staff time now freed up.

Fundamentally, the GeneSIS project is complex in nature since it will encapsulate processes relating to TCD's unique learning and teaching experience for students. GeneSIS also seeks to remove duplication and improve efficiency in these processes. It quite rightly follows that the focus of GeneSIS is on improving quality, tracked via realisation of a detailed list of qualitative benefits and improvements. Notwithstanding the primarily qualitative focus, the panel felt that the efficiency aims of GeneSIS could be better reflected by some specific numeric targets and an appropriate plan put in place in order to ensure their tracking and ultimate realisation – the section on Measurable Benefits presented to the panel (GeneSIS Business Case 3.1 Section 6.1) contained no such numeric targets, which was felt by the panel to be a deficiency.

*Recommendation(s):*

- Clear mechanisms for tracking benefits realisation should be incorporated into all project plans for major IS/IT projects (e.g. FIS, GeneSIS) to ensure promised Return On Investment (ROI) is delivered through achieving real, quantifiable and cashable savings.

### 4.4 The Impact of ISS/IT Staff into this Model

The panel observed a variety of staffing models for delivering IS/IT services to Schools, central administrative units and students. Based on examples given to the panel, IS/IT provision to support services was primarily commodity in nature and was also the case for certain Schools. Other Schools undertook complexity IS/IT activities, adding clear value to School-specific research and teaching activities, alongside more generic support work.

It is suggested that reporting arrangements for IS/IT staff currently outside ISS be looked at under three groupings:

i. IS/IT staff in central administrative units.
ii. IS/IT staff in Schools with little or no specialist/complexity IS/IT requirements.
iii. IS/IT staff in Schools with significant specialist/complexity IS/IT requirements.

Whilst (i) and (ii) could be looked at independently, it is the view of the panel that the default assumption, leading to the most efficient, robust, resilient IS/IT service, would be for all these staff groupings to transfer and report directly to ISS; the panel suggests that any exceptions to this are explicitly authorised by a senior cross-College group such Library and Information Policy Committee (LIPC), based on a clearly articulated argument on the benefits of the alternative approach to the particular area, and with all such exceptions reviewed annually by LIPC.

While administration and recharging for any such arrangements is outside the scope of this report, the panel noted a successful model employed in the Faculty of Health Sciences, which appeared potentially to be transferable across other areas.

Regarding (iii), it is right that speciality IS/IT requirements are provided from within the School, as at present. The issue of Schools undertaking complex IS/IT activities is that the same individual staff can undertake 'hybrid' roles involving specialist duties alongside generic support activities. A very strict application of the commodity/complexity model would seek to centralise the generic function while leaving the specialist function within the School. However, this creates clear practical and HR issues of attempting to split roles of existing staff.

One approach would be to transfer some staff, primarily engaged in generic activities, to ISS while keeping other staff, primarily engaged in specialist activities, in the School. A pragmatic alternative is that School-based IS/IT staff undertaking hybrid roles remain where they are, but have a 'dotted line report' to ISS for the generic part of their work. Specifically, these staff become more aware of the distinction between the two strands of their roles, and alongside specialist activities attempt to deliver generic support as an 'agent' for the central service (ISS), to centrally-agreed service definitions, and receiving and updating incidents via the central Remedy service management system. This may require additional training and co-ordination activities between Schools and ISS, improving rapport between IS/IT colleagues and also coherence in levels of generic service.

*Recommendation(s):*

- Consideration be given to transferring responsibility for all commodity IS/IT activities to ISS (see Section 4.2 above) under the lead of the new CIO role.
    a. In the case of all support services, and Schools with little or no complexity/specialist IS/IT function, this should involve the formal transfer of the staff involved to ISS, with any exceptions being explicitly authorised by the LIPC and reviewed annually.

b. In the case of Schools with genuine complexity/specialist IS/IT function, the specialist function should be retained locally, and functional responsibility for the generic service should be transferred to ISS, to be achieved either by formal transfer of staff, or by the pragmatic 'dotted line report' model described above.

It was also reported to the panel that there may be some variation in grading of IS/IT professionals within TCD, i.e. between the Schools and ISS, although no direct evidence was sought by the panel given the time constraints of the review.

*Recommendation(s):*

- It is suggested that the issue of perceived disparity of grading of IS/IT staff be fed into the drawing-up of an over-arching HR strategy, as recommended by the START Taskforce.

### 4.5 Driving the On-going De-duplication of IS/IT Services

Following on from the above discussion, a process is needed to ensure today's complexity activities transition to tomorrow's commodity, releasing capacity for new, future complexity activities which will help ensure TCD retain its pre-eminent position as a world-class HEI.

Without seeking to control centrally or put any barriers in the way of specialist IS/IT activities in Schools, a holistic qualitative and quantitative view should be maintained of all IS/IT activity across the College. This view should be owned and maintained by a senior cross-College group such as Library and Information Policy Committee (LIPC), with the new CIO role as a key member. This will allow:

- Quantitatively, total levels of IS/IT spending to be tracked across the organisation as a whole, both centrally and in Schools, and be benchmarked against appropriate world-class reference HEIs.
- Qualitatively, current areas of duplication to be identified, and future, emerging areas of potential duplicate activity to be spotted early to allow synergies to develop, and potentially to assist any transition from complexity to commodity.
- Consistent College-wide policies regarding use of IS and IT services, such as the VLE, to be created and co-ordinated centrally.

It is suggested an appropriate framework for the above is IT Total Cost of Ownership (TCO), which has been used for precisely this purpose at other devolved Universities (e.g. Loughborough, Leicester, etc.). The Director of ISS at TCD has previously produced such a model, and the greater weight attached to this work as a result of the above would ensure its updating was not onerous.

The panel was mindful of the wider public funding situation facing organisations such as TCD, and felt that, without having a benchmarked, holistic view of IS/IT TCO in place, particular care was needed in choosing which precise areas cuts should be applied. For example, were a cut in central ISS budget to lead to a reduction in some particular in-house capability (e.g. business analysis), then later a College project requiring this same capability would be required to pay for it at full commercial consultancy day rates. The overall impact of the original cut to the College's bottom line could prove to be counter-productive.

The holistic view that TCO provided will allow wider consequences of resourcing and budget decisions to be fully tracked; and this greater visibility, fed into the College planning process and budget round, will in the longer term help to drive more appropriate resourcing decisions and mitigate potential false economies.

*Recommendation(s):*

- All IS/IT activities, commodity and complexity, be captured in a TCO evaluation, complied by the CIO on behalf of the LIPC, and annually reviewed and benchmarked against comparator HEIs, as a key mechanism for identifying and eliminating duplication, feeding into the College planning and budget process, and continually improving IS/IT service.

### 4.6 Service Catalogue and Sourcing Future Commodity Activities

It is recommended the above TCO analysis be fed into the updating and significant reorganisation of the existing ISS Service Catalogue, to yield a universally-agreed set of commodity IS/IT services to be delivered centrally at an appropriate quality level (and cost where appropriate) defined in the Catalogue. The Catalogue would then be reviewed annually, informed by the annual TCO update. An appropriate senior cross-College group such as LIPC would sponsor this Catalogue, and would require all TCD Schools and administrative units to obtain their generic, commodity IS/IT services via the Catalogue.

It is suggested that some services, not currently included in the Service Catalogue, are now commodity, and would be likely to appear in a future Catalogue compiled using the above approach, for example:

- Virtual and 'traditional' desktop service
- Email and groupware (single platform for all staff and student)
- Generic storage and backup
- Web server hosting platform (to host generic and specialist Web sites)
- Virtual server hosting platform (to host generic and specialist server applications)
- High speed storage for HPC and similar

It is further suggested that for each area within the updated Service Catalogue, LIPC takes ownership of the decision of how best to source that area (e.g. outsource, shared service, in-house, etc.), then ISS colleagues can work collaboratively with the Procurement Office where appropriate (including the ICT Procurement Officer, a role that fits well with the suggested approach here both in terms of expertise and potential workload) to implement the agreed sourcing model.

It is suggested that the approach taken be one of providing a seamless IS/IT service, by making any particular sourcing decision invisible to users. For example, a single Service Desk function should be able seamlessly span services provided in house (e.g. corporate application user support), via casually-employed student staff (e.g. Connectivity Clinic), via shared service (e.g. HEANet internetworking) or outsourced (e.g. student printing support). A corollary is that ISS in conjunction with Procurement Office take more direct responsibility for supplier management and SLA compliance on behalf of users (see Section 3.7 above).

*Recommendation(s):*

- All commodity IS/IT activities should be defined and provided to all TCD Schools and support services via an annually-reviewed Service Catalogue, compiled by the CIO on behalf of LIPC and with its senior-level sponsorship, defining the required quality of these services, their sourcing, and charges where appropriate.
- Sourcing decisions (particularly to outsource) should be transparent to service users, with a seamless service provided, and ISS and Purchasing taking full responsibility for supplier management and SLA compliance.

### 4.7 Consideration of Risk

In determining the appropriate sourcing model for each service as above, it is recommended that due consideration be given to risk. This could work in at least two ways:

- The risk associated with current practice could be weighed against alternative models. For example, were the College to take a view that generic storage and virtual server capacity be a candidate for provision centrally as a 'commodity' service, then any risks could be evaluated against current reported practice of some School-based storage platforms not being located in appropriate facilities, or duplicated, with risk of loss of valuable College intellectual property (i.e. research data).
- When outsourcing, to mitigate risk of future supplier failure, a clear exit strategy should be defined in advance of any such agreement, with appropriate elements of the exit strategy being encapsulated in the outsourced contract.

Finally, it is suggested that IS/IT-related entries in the top-level College Risk Register might be updated to reflect this approach, with consideration given to adding of risks of information loss and reputational damage from IS/IT misuse at this level.

*Recommendation(s):*

- Sourcing decisions for Service Catalogue entries (e.g. insource, outsource, shared service) should be owned by LIPC. These decisions should include due consideration of risk, and a clear exit strategy for all outsourced services.
- IS/IT-related entries in the top-level TCD risk register be reviewed and updated as required in light of these changes.

## 5. Service Management

**5.1** It was heartening to hear, throughout the review, many references to service provision and a genuine concern for user experience. It remains the fact that IT teams in many HEI's, and also surprisingly still in some commercial organisations, continue to focus on technology rather than user experience and service. The customer-focused approach to service delivery in TCD is to be applauded.

This prioritisation of user experience provides an excellent platform to further develop the service offerings from ISS. The existence of a service catalogue, performance metrics, user representation on projects, are all excellent approaches and are to be commended.

In considering specific services there are many examples of excellent performance and, not surprisingly, a number of areas where further development might be considered. In this section we will first comment on the more strategic development of service management, ITIL, KPIs and process management capabilities, before moving on to brief comments on some more detailed, specific issues.

### 5.2 The Strategic Potential of Service Management

Service Management is a well established and recognised methodology in professional IT service organisations. Often, it is introduced against an agenda of user satisfaction and service improvement – but it can also have a powerful impact on cost control and workload management. In the context of severe financial pressures further investment in Service Management capabilities is highly recommended.

Appropriate, and disciplined, implementation of Service Management will reduce errors, outages and other service incidents – allowing staff resources to be moved from responding to incidents, to developing new services and solutions. In a situation where headcount is severely controlled, but with a need to improve some services, reducing 'incident management' workload is key.

As an indication of the scale of impact that can be achieved, a comparable HEI has shifted 10 FTE's from 'fixing faults' to 'service improvement' and made cost savings of £1.2m/annum[2]. Advanced Service Management will also deliver more robust and reliable services, generating confidence in Schools and Departments to move some non-specialist IT operations from local to central provision – reducing duplication and increasing overall capacity to introduce new, innovative services.

*Recommendation(s):*

- Develop further the application of advanced Service Management methods specifically consider the adoption of more formalised, and standardised, ITIL methods.
- Consider the introduction of (Lean) Six Sigma skills – to drive data and outputs-led service improvements.

### 5.3 The Role of the Service Desk (Helpdesk, Drop-in Centre)

Having discussed the strategic importance of Service Management, it is also important to recognise the critical role to be played by the Service Desk. Many College representatives provided very positive comments on the helpdesk and drop-in service. This team is to be commended on their approach and commitment. Further, the use of the Remedy toolset provides a powerful platform on which to build a comprehensive service management function.

This is an excellent starting point as the Service Desk function is an often overlooked, but powerful, gateway to fundamental, radical and highly valuable wider service improvement. The foundations put in place are a source of great potential and should be enhanced further.

Although standard processes for raising and managing incident tickets are currently in place, and some useful reporting on call volumes, response times, resolution times, etc. are generated, this capability needs to be enhanced further. It is clear that improvement in this area will take investment – but implemented well it will repay itself many times over.

Currently the service desk function operates at a relatively un-refined level of resolution, (e.g. recording all tickets as incidents, rather than differentiating between incidents [something going wrong] and requests). It would be highly beneficial to be

[2] It is noted that cost savings associated with headcount reduction may not be available to TCD, however movement of staff and reduction in outages and errors remain highly desirable.

able to separate requests from incidents. It is also desirable to be able to classify tickets by a number of different categories, for example:

- By channel (phone, e-mail, web form, etc.)
- By service team (e-mail, storage, server hosting, etc.)
- By service product (within storage: file store, shared storage, high performance storage, etc.)
- By customer group (school, department, staff, student, etc.)
- By resolving/root-cause team (i.e. a problem could be addressed by one team but actually caused by an upstream issue in a different team)

Once properly set up, much of this data can be captured, analysed and reported automatically, with minimal overhead to users, or service teams. Currently, helpdesk service reports are produced weekly and require manual, repetitive work; it is noted that these reports do cover some of the categories provided as examples above. Investment in an appropriate tool (Remedy will certainly cover many of these functions, although there are many other similar tools available), will allow many reports to be delivered through automated scheduled publishing or created in just a few minutes and run as required.

Furthermore, ISS should increase its use of ITIL processes. Currently a tailored "ITIL-lite" version is applied in terms of Service Management. This should be evolved to implement a more standardised version of ITIL. There are a number of components to ITIL, and each comes with a not-insignificant requirement for time and effort, so care should be taken only to implement those components that will deliver most value. At this stage it is suggested that a focus on 'request', 'incident' and 'problem' would be most beneficial, followed by 'change', 'configuration' etc at a later date as resources allow. Although not possible to verify during the review, it is noted that ISS considers that it is ITIL compliant for incident and change management.

### 5.4 Evolution of KPI's

ISS already publishes a set of key performance indicators and this is an excellent discipline to be encouraged. However, the usefulness of these metrics should be considered. At present the metrics appear to focus on underlying technical performance and while these measures are of interest and use to service providers (e.g. server availability), they are not always meaningful for users, nor do they provide a true representation of user experience. In addition, different measures may more accurately measure overall impact on the institution.

As examples, ISS may wish to consider the development of metrics such as:

- Network: for network incidents rather than simply reporting whole network availability, capture the number of ports affected and duration of the incident – report on lost 'port hours'.
- Email: rather than reporting email service availability, set up metrics that record the time taken for an email message to be delivered between mailboxes – report on the percentage of mail delivered within, for example, 5 minutes.
- Real user experience: an aggregated metric that combines the performance of the services that are used to deliver a particular user function. For example: real user experience of SITS availability will combine the SITS servers, network, desktop/PC, web servers etc.
- User satisfaction: it is possible to set up a light touch user feedback mechanism that immediately captures service performance against user expectations. This is particularly useful for service requests rather than incidents, as users tend to be a little more forgiving / tolerant when being helped with a problem. When they have made a standard request, they tend to be more demanding (e.g. "I can order a PC online and have it delivered same-day – why can't ISS do that?"). It is noted that there is an existing mechanism in place for user satisfaction feedback that captures service performance and user expectation for the support services offered by ISS.

The above examples are offered merely for illustration. The development of appropriate metrics is subtle and varies between institutions. However, it is strongly recommended that this is undertaken as any progress in this area is better than producing measures that no one really values.

### 5.5 Service Improvement through Sophisticated Data Analysis

Investment in ITIL and supporting tools will deliver a very clear and appropriately detailed view of service performance. It will become more apparent as to what services/components cause most disruption, how much resource is spent fixing problems rather than delivering new functions, and the real impact of outages – in terms of lost productivity and user downtime. However, this data alone will not necessarily lead to service improvements. The department should consider investing in staff skills development in methods such as Six Sigma or Lean Sigma. This type of capability uses data to analyse process performance and to predict performance improvement given a particular intervention. Not only will it lead to service improvement, but it will 'automatically' quantify such improvements with metrics that are meaningful to users.

### 5.6 Other Service Issues that were Identified or Highlighted to the Panel

A number of lower level comments were received that should be considered with the following recommendations:

- The drop in centre was highly valued but some users commented that opening hours were inconsistent and confusing. ISS might consider the use an outsourced service provider in this area as other HEIs have found benefits in this approach. (Example for Illustration: http://www2.warwick.ac.uk/services/its/servicessupport/deskside/systemsupport/)

- The wireless service is clearly a source of concern for both users and ISS, especially access for mobile devices. It is noted that ISS is currently addressing this issue – in doing so it might consider the balance between necessary security and user experience. The existing access mechanisms, for wired and wireless networking, were considered cumbersome and unreliable. ISS should continue to consult with other HEIs to consider if alternative mechanisms and approaches might be usefully applied to TCD.

- Support for individual computers might also be considered. Some users suggested the provision of a standard computer with simplified ordering, delivery, a standard desktop image, preloading of applications, a simple data transfer mechanism, 'welcome to your machine' support, removal of old equipment and packaging – a sort of 'no hassle, we'll take care of everything' offering. It is noted that ISS currently creates Windows XP, Window 7 32bit and Windows 7 64bit standard images which are available on all new Windows workstations purchased via the College Desktop supplier and this support could be extended to include other services.

Additionally support for Mac users could be expanded, a response to the growing number of users adopting the Apple range of products.

- TCD currently uses different email systems for staff and students. It would be beneficial in terms of simplification and reducing the number of skills required by support staff, if the College could standardise on a single system.

- The outsourcing of the printing service is an innovative and potentially highly beneficial development – a number of other HEIs are looking to expand this type of offering beyond student printing to staff provision as well. However, the branding and public face of this service needs serious consideration, as

there is a perception of ISS 'pushing away' users to the 3rd party provider and, to some extent, washing its hands of the relationship.

- In any outsourcing arrangement it is critical that ISS remain the public face of the service and hold total responsibility for its performance. External vendors have many positive contributions to make to internal service provision – but always through ISS.

# 6. Response from the Head of IS Services

## 1. Background

The IS Services senior management team and IS Services staff would like to thank the reviewers for their thoroughness and their constructive recommendations and comments. IS Services would also like to thank the College Secretary who ensured the smooth facilitation of the review. For reader ease, the structure of this response follows the key areas and headings of the Quality Review report under the headings used by the review team. There are 32 specific recommendations in the report and 3 that are embedded in the body of the report. Ten of these recommendations are not specific to IS Services but are more general to College IT, its operation, governance and acquisition. IS Services management has responded to each of these recommendations and these responses will be included in the implementation plan which is part of the next phase of the review.

## 2. General impressions (page 13 of this report)

The Director of IS Services and the IS Services senior management team broadly welcome the recommendations of the Quality Review team and can report that many actions identified by the Quality Review team are already in progress or being evaluated. The overall thrust of the report is positive and constructive and IS Services are pleased that the overall impression of service delivery is good and that its services are appreciated by users. The Quality Review team also identified that this level of service was being delivered while recognizing that the department is working under serious resource constraints. It is also reassuring that the reviewers have found that the integration of The Centre of High Performance Computing into IS Services (June 2011) appears to have been successful and that synergies have been created through the cross transfer of skills and best practice. Management is also pleased that the users of the Helpdesk are largely positive towards the service and there is recognition that IS Services staff are highly committed and enthusiastic in their endeavors. This was reflected in the user survey that was carried out as part of the review with over 2,700 participants taking part in the survey.

The recognition of the role of the Programme Management Office (PMO) in instilling confidence within IS Services and more importantly the user community in the ability to deliver projects to plan is noted and provides a good basis for further expansion of this increasingly important service.

## 3. Organisation, Structure and Skills of ISS (page 13-19)

The senior management team fully support the concept of an over-arching Information Strategy for the College and a draft of same has been prepared by the Director of IS Services. Delivering on the Information Strategy will involve a change in how IT is acquired and managed College-wide and this is an issue that will need to be addressed at Executive Officer level. The role of Director of IS Services does not currently include responsibility for IT outside of IS Services and this should be addressed under the proposed Chief Information Officer (CIO) role. The senior management team would also support a skills analysis of IT staff across College to ensure that staff has the required skills to support new environments

and College-wide projects. The review team has identified the Programme Management Office (PMO) as a success and something that could be built on College-wide. The senior management team welcomes this assessment but would advise caution in extending the PMO to other areas of College until the existing service is further developed in the IT areas.

**4. Value for Money, Duplication and Risk (page 20-28)**

The senior management team welcomes the reviewers' assessment in the areas of commodity IT and duplication of services, facilities and roles of IT staff in College. IS Services senior management are fully supportive of the recommendations in this area particularly in the area of "commodity IT" and are working on a sourcing strategy. Some commodity IT has already been externally sourced such as student email, student printing and more recently the Virtual Learning Environment (VLE). The alignment of IT staff in Schools and other Administrative and Support areas would offer greater value for money, tracking of resources and help eliminate duplication of effort and services. IS Services has already done some work in this area and the senior management team would be happy to progress with these recommendations. The concept of "one IT" is a key pillar in IT Strategy and is a key deliverable in achieving value for money and duplication reduction. It is also noted that **all** major IT projects should deliver on achieving real, quantifiable and cashable savings and this should be addressed by the Programme Management Office (PMO). This has already been actioned.

**5. Service Management (page 28 -33)**

IS Services senior management are particularly pleased with this section of the report and the recognition that the service provided by the department is very customer focused and that a number of the key metrics, tools and processes are already in place. However, it is recognised and noted that these are platforms and initiatives that need to be built on and developed further and the team fully accept the recommendations in this section of the report. Some of these initiatives are already being progressed such as a continuous improvement programme and an evaluation of extended opening hours. The detail and timelines of these initiatives will be in the implementation plan.

**Conclusion - Review Report Recommendations**

IS Services management is committed to building on the 32 core recommendations and the three additional recommendations laid out in the Reviewers' report, and recognise the need to continue to be relevant and to add value and innovate over the coming years. A timeline for the implementation of the recommendations will be drawn up once this report has been approved and many recommendations are already in progress or can be implemented right away. Some recommendations[3] will require input from Executive Officers, Annual Officers, Schools and other administrative and support areas as these are generally high level and refer to cross College activities that affect other areas outside of IS Services.

[3] Recommendations no. 1, 8, 11, 14, 16, 17, 18 and 20.

IS Services senior management is broadly supportive of these high level recommendations and some work has been done in some of these areas, but support from Executive Officers, Heads of Schools and Heads of Administrative and Support areas is seen as important in delivering on the majority of the above. There is also a question around the current and future role of the Library and Information Policy Committee (LIPC) in delivery and monitoring of the recommendations. The START report has suggested that the role of LIPC may be somewhat different in the future.

# 7. Response from the Chief Operating Officer (COO)

**Introduction**

I welcome the Reviewers' Report on the quality review of ISS. I would like to thank the Reviewers for their time and effort in compiling a comprehensive analysis of the area with clear and insightful recommendations. This report aligns well with the START findings/recommendations.

The Reviewers' acknowledgement that ISS is providing a good service in an environment where there are resource constraints is welcomed. It is imperative that there is a focus in increasing effectiveness and efficiencies and reviewing/modifying technology, current practices and methodologies in order to meet customer requirements.

The provision of IT systems and support is crucial to enabling TCD's strategy and ambitions. In order to provide world class services to staff, students and researchers, an IT organisation should provide leadership, employ best practices, engage with the users, be proactive in identifying / implementing both standard and customised solutions and provide value for money.

TCD's ISS organisation requires modernisation to reflect the current reality and needs of Schools and Administrative areas. The management and leadership, processes and practices, systems, capability/skills, flexibility and deployment of technology are areas of focus to enable the transition to an organisation reflecting the needs of 2012 and beyond practices. Regular and consistent benchmarking of high performing IT organisations is required and should be pursued. The identification and implementation of significant IT initiatives to support students and staff is required to enable the college to realise its' strategic initiatives.

**Response to recommendations**

The positive comments regarding the integration of High Performance Computing (HPC) into ISS, the help desk and the introduction of a Programme Management Office (PMO) are welcomed.

The Reviewers' recommendations in relation to the development of an IT strategy and the appointment of a Chief Information Officer (CIO) are an endorsement of the findings of the START (Supports in Trinity Administrative Review and Transformation) taskforce. The College's proposed approach is to develop the IT strategy and subsequently recruit the CIO as per the model used to develop the College's Global Relations Strategy in 2012. The recommendation regarding the allocation of IT resources/ownership between the current ISS organisation and the schools should be considered. This has been an on-going discussion for some time and needs to be brought to a conclusion and decisions made as to the next steps.

The adoption of the standard commodity /complexity model to determine location and sourcing of IS/IT services may form part of the START "To-Be" mapping process. It follows that the mechanism for tracking benefits realisation for FIS and GeneSIS should form part of the implementation plans for all such projects.

The definition of clear roles and responsibilities and the development of Service Level Agreements (SLA) and Key Performance Indicators (KPIs) are also on the START roadmap. Relevant and useful KPIs that reflect the user experience should be developed, published and the focus area addressed. The transfer of the Virtual Learning Environment (VLE) to the CIO is aligned with the START report and consistent use should be mandated and reviewed. The recommendation regarding Staff training and development is essential to further developing the organisation to support the needs of College. The recommendation regarding having a skills inventory of ISS staff is welcomed and standard practice for such organisations. This will ensure the correct skills are developed – technical, people management, project management and leadership.

The perceived grading issue between ISS and IT staff in the schools should be addressed as part of the HR strategy. There needs to be a review of the maintenance and replacement needs of legacy Systems. A proposal should be developed which is cognisant of both risk and affordability.

The recommendation concerning the PMO and expansion of same should be considered as part of the "To-Be" analysis. The identification and implementation of best practices with regard to items such as evolution of IT, Project Management, sourcing decisions and provision of service catalogues should be adopted. In addition, there should be greater clarity and transparency regarding Projects – e.g. project scoring methodology, project requestor, title and current status.

The recommendation that all IS/IT activities (commodity and complexity) be captured in a Total Cost of Ownership (TCO) evaluation is welcomed, and should be analysed and reviewed including conducting meaningful benchmarking.

ISS should further develop the application of advanced service management methods as recommended by the reviewers. ISS should benchmark themselves versus other IT organisations – within and outside the Education Sector.

**Conclusion**

The reviewers report is welcomed and aligned with the START Task Force recommendations. The appointment of a CIO and the revised organisation will ensure the development of a modern IT organisation which is proactive, forward looking, and focused on anticipating and provides the required tools, support, and technology. Affordability and providing value add is a key component of this organisation in addition to the provision of the required management, leadership and technical skills and capabilities.

The implementation of the START recommendations provides the roadmap for addressing the recommendations.