



ULSTER UNIVERSITY

INFORMATION TECHNOLOGY STRATEGY 2015/16 – 2020/21

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1. Contents	Page No.
1. Purpose of document and definition of terms	3
2. Executive summary	4
3. The University's Values and Vision	5
4. Context of the IT strategy	6
5. IT Governance and Management Framework	8
6. Supporting the University's Strategic Objectives	10
7. The Key Strategic Programmes	11
8. The New Delivery Model	20
9. Funding and budgeting principles	20
10. Information Service Division Strategic Direction	20
11. Risks to the Delivery of the Strategy	21
12. Appendix A – Timelines	22
13. Appendix B – Progression of the 2010- 2015 strategy	23
14. Appendix C – References	25

1. Purpose of the Document and Definition of Terms

1.1 The Purpose of the Document

This document is an Information Technology strategy for Ulster University for the period 2015/16 – 2020/21. It describes how information and technology will be used to support and deliver improved outcomes across the institution and create transparency for our customers. As well as relying on technology to run our business day to day information underpins our ability to make decisions and take actions that allow the University to achieve its key strategic aims. In particular, those that support the purpose of the University, Learning and Teaching, Research and Innovation. In addition, the University makes a significant contribution to business and its local communities as well as reaching out nationally and internationally. The document translates these aims into priorities for 2015/16 – 2020/21 and defines an integrated action orientated strategy.

The strategy is for the whole University not just for the Information Services Division (ISD). It does recognise that in a large, multi-campus University there will be considerable diversity in requirements and the specialist skills needed to gain the most benefit from information technologies. The importance of effective IT governance arrangements features in the strategy. Time is taken to specify the mechanisms that promote and encourage desirable behaviours in the use of IT which provide value for the University.

1.2 Definition of Terms.

The casual use of language in the information technology field requires clarification of the terms that are used in the document. It is easy to be overwhelmed with the never ending stream of new technologies and acronyms that emanate from the IT industry. The tools that facilitate the digitization of products, processes and services for students and staff while important are not central to this strategy, rather a means to an end. Although the strategy uses the term information technology it emphasises the importance of relevant, timely and accurate information as well as excellent customer service over the unthinking deployment of technologies. This separates *what* is required, information, from *how* it is delivered, increasingly through digital tools and capabilities.

Where the term Information Services Directorate (ISD) is used it refers to those within the central Finance and Information Services Directorate. Devolved IT staff refers to those technical staff who are outside of the central ISD but provide support to Faculties and other functional areas.

2.0 Executive Summary

The focus of the previous IT strategy (2010 – 2015) was on the development of robust policies and procedures to enhance IT governance in respect of general IT controls and project management. Though a continuing process this is largely achieved and confirmed through internal audit.

There remains a tension between maintaining and supporting legacy systems and delivering systems and services which support the strategic goals of the University. Focus has changed to put in place structures and processes to encourage the University to prioritise and take ownership of business focused IT programmes that improve services to students, staff and partners. There are five primary strategic objectives and four supporting aims which are dependent on information systems and technologies for their delivery:

Primary Objectives

- A. Enable a personalised, enhanced local, international, transnational student and staff experience,
- B. Support Student Centred, Flexible Learning, Teaching and Assessment through IT,
- C. Enable an Agile Resource Effective Curriculum,
- D. Support a Modern, Civic University through Institutional Research, Collaboration and Innovation and,
- E. Move to a Paper light University,

Supporting Aims

- F. Facilitate Institutionally effective and efficient business processes,
- G. Support the use of business information, intelligence and analytics to inform decision making,
- H. Improve Information and Technology Governance and
- I. Provide a modern, standard and simplified IT infrastructure

The initiatives and programmes which will deliver these objectives are subject to approval by the IT strategy group and formal prioritisation through the IT prioritisation group. In addition to these programmes there are a number of supporting operational projects underway. Mature, self-service and externally supported enterprise platforms and services will be used to deliver many elements of the strategy. In common with many organisations the University is juxtaposing two-speed technology platforms – rapidly developing innovative web based and mobile enabled applications on the front end that facilitate better interactions with students, staff and partners while continuing to run standardised operational systems at the back end to ensure data security and reliability. The Microsoft ecosystem is prominent in the strategy and will remain so to take advantage of opportunities for interoperability and integration as well favourable licensing arrangements.

Cloud based and ‘as a service’ service models of delivery will be considered first in the implementation of the strategy. This does not mean that ‘traditional’ IT skills will be marginalised but will be complemented with requirements analysis, supplier relations, contract specification, negotiation, brokering and management capabilities.

The University is 'data rich and information poor'. There is an operational, fragmented view of information and technology across the university which is reflected in its structures, processes and IT spend. Organisational change issues are substantial in decoupling silos of organisational activity for multiple stakeholders through workflows that are now configurable through IT platforms. Managing this change requires individuals that have more than an understanding of a technical domain but also the behavioural skills and business understanding to act as the interface between service providers, in house IT and the University.

Senior officers are beginning to see information systems and technology as a strategic business issue. Most major programmes are successfully supported by external partners and are business led. ISD recognise the need for change and the implementation of the new IT strategy is in progress. The transformational opportunity for the University through IT is substantial and achievable if the University can change its culture and processes.

3.0 The University's Culture and Vision

3.1 Values [tbc]

The four core pillars or principles of the University's overall strategy have been agreed with the University's Council, the Senior Executive Team and at School visits. These pillars will define the University's future strength through:

- Our internationally excellent and world leading research
- Our leadership and commitment to teaching excellence
- Our civic contribution and societal impact
- Our role in the international community.

3.2 Information Culture

A culture shift is required so the values, roles and norms of behaviour of staff reinforces the use of information to improve processes, inform decisions and reflect on actions. New practices such as data analytics will increasingly be used to support excellent teaching and research. It is important that staff be empowered to perform their roles well in a digital, data-driven world, and should be provided with appropriate training and support to improve their digital capability and data management skills.

3.2 Vision [tbc]

University Corporate Plan 2011-2016¹ focuses the vision of a professional education for a professional life through the delivery of accessible teaching and learning for students, research excellence and innovation. The delivery of these two integrated aims are underpinned by the provision of an inclusive and financially sustainable infrastructure. The University also seeks to enhance its contribution to the economic, social and cultural development of Northern Ireland and its global standing.

Information systems and services are central to leading, enabling and supporting the University's vision. This is achieved through the identification of a number of key themes which are delivered as programmes of multiple or individual projects. Of particular importance are those cross functional initiatives that place the experience of the student at the centre of everything we do. The IT strategy is regarded as something the University does rather than something it has. This is important so that the strategy can adapt to unforeseen circumstances and opportunities.

4.0 The Context of the Strategy

The external environment impacts Ulster University in many ways such as:

- A significant reduction in government funding requires the University to differentiate itself from other suppliers in the competitive market for students, research grants and alternative sources of local and international funding,
- Student fees creating increased expectations of the services students receive,
- Operational and legacy systems are all impacting these expectations and delivery,
- The University's reaction to a steadily expanding and improving IT services sector and by the emergence of increasingly technically aware students whose digital world is hyper-connected and instantaneous,
- Physically the £250 million Greater Belfast Development (GBD) will provide modern learning and teaching facilities requiring decant from the Jordanstown campus. ISD will continue to have a significant role to play in delivering an 'intelligent building' that is enabled not constrained by technology, and
- The impact of technologies such as workflow/process automation, cloud, mobile and social on the delivery of services.

¹ **Note: The University's strategy beyond 2016 is in development. This may have an impact on the number, prioritisation and sequencing of the themes and projects in the IT strategy.*

The IT strategy is enabled and constrained by the strategic direction of the University, information work is prioritised against these demands. The role of IT is also shifting to becoming integral to the support, sustainability and growth of the University. This requires attention to behavioural, educational and technical means to ensure we are meeting individual and corporate responsibilities.

4.1 Building on the Previous Strategy

Reflecting on the contents and progression of the 2010-2015 IT strategy many of the extant operational issues are now addressed. A low level of maturity in governance in respect of IT controls, IT security and IT project management are also addressed or have received significant attention. There remains duplication of IT effort across the University which increases costs, complexity and creates significant security and information assurance issues.

It is the ability to execute stable and repeatable patterns of IT management activities that contribute to information assurance and deliver business value. Persistent, embedded retrospective cultures and behaviours in some areas of the organisation impeded the implementation of elements of the previous strategy. There are however significant developments and changes across the information services landscape. This includes prioritisation of major projects through a senior committee representative of the key stakeholders across the University. The implementation of the IT strategy is now orchestrated through a revised project planning process. Performance indicators measure the delivery and outcomes of projects that are seen University business projects first rather than IT projects.

The introduction of the New Delivery Model (NDM) relies on the use of strategic partners to provide commodity IT services to deliver efficiencies and improve service delivery times. The NDM requires ISD to step back from the in-house development and technical service delivery activities that once were its core capabilities and acquire more business focused skills. These allow ISD to identify and work with key stakeholders to understand areas of concern, problems, issues, and service requirements. This permits increased attention on activities which add genuine value, collaborative advantage and differentiation to the core business of the University, the activities relating to teaching, learning and research.

4.2 Constraints on Implementation

The delivery of the strategy is constrained by the need to maintain a safe and secure 24/7 operational environment. The managerial and technical challenges to protect the University's

data are substantial. The increasing costs of security and mitigating risks to the information technology environment make security a strategic issue. The implementation of the IT strategy requires that proportionate and cost effective security measures are put in place where necessary. The skills and resources needed for the 'business as usual' activity that is required to support a large multi-campus university represents 78% of ISD work. Using external service providers to reduce as much routine activity as possible is essential to allow staff to work on high value projects.

A major project unfolding over the period of this strategy is the Greater Belfast Development. Considerable resources have and will be deployed to deliver end point technologies, networking both wired and wireless as well transferring some facilities to a secondary back-up data centre.

The requirement of the University to grow the capabilities of staff and students in using the information and digital technologies is the most important requirement in the successful implementation of the IT strategy. Digital capabilities are those that fit an individual for living, learning and working in a digital society (Jisc, 2013). The definition also includes the infrastructure and digital environment in which individuals live and work, and a range of other capabilities including information literacy, digital professionalism, ICT skills, digital scholarship and electronic collaboration and communication.

5.0 IT Governance Framework

The strategy emphasises the importance of good governance, it takes the view that improving governance improves outcomes.

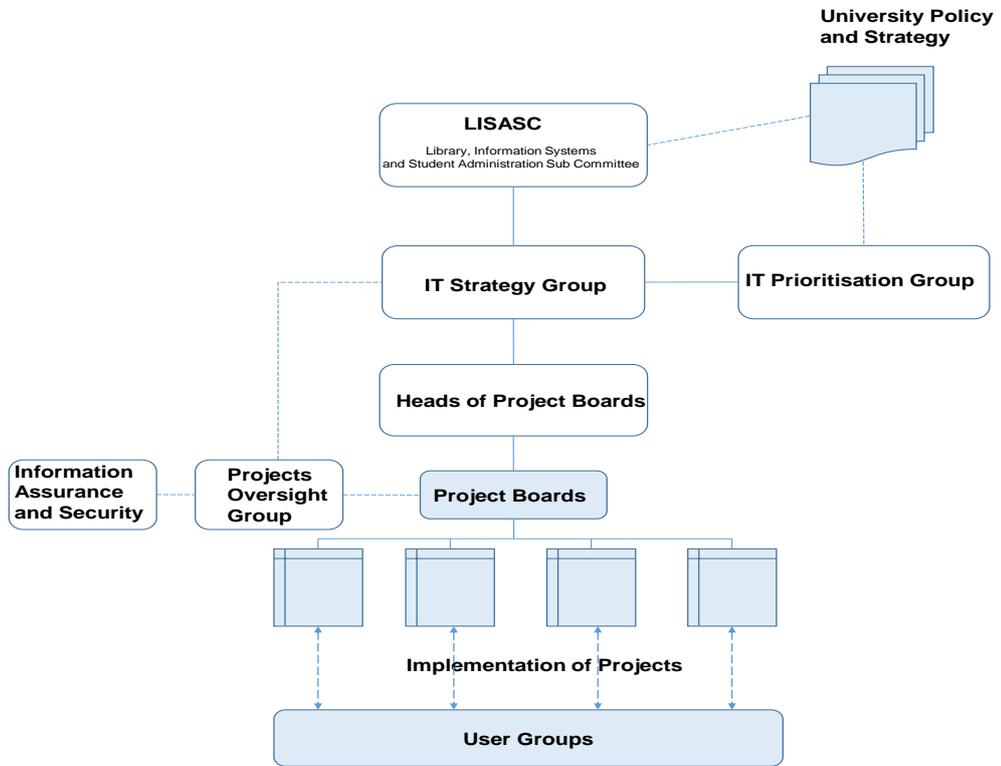
To this end ISD will

- Ensure the existing portfolio of IT investments are monitored through the IT strategy group, the IT portfolio is reviewed and prioritised by the University's IT prioritisation sub-group and progress is communicated to our most senior information committee LISASC to insure alignment with organisational aims,
- Develop strong and consistent processes for the intake and tracking of projects, project management is the institutional memory of governance.
- Create a clearly articulated approach to IT risk that is consistent with the corporate risk approach, and a methodology for calculating IT risk.
- Work with finance and procurement departments to create a consistent method for calculating and communicating business value, and integrate finance into the overall governance process.

- Always make governance decisions in context by evaluating potential IT investments on their individual merits and how they impact the overall portfolio.
- Provide clear mechanisms for tracking benefits realisation into all project plans for major IS/IT projects to ensure promised Return On Investment (ROI) is delivered through achieving real, quantifiable and measurable savings.
- Deliver a total cost of ownership (TCO) for the ISD service catalogue for central and devolved spend.
- Reduce uncoordinated IT spend that has resulted in duplication, inefficiency and unnecessary complexity.
- Provide performance metrics across ISD that show we are providing a service our customers expect.
- Lead the provision of a robust data management system to ensure that data is secure, accurate, consistent and fit for purpose.

The IT governance and strategy decision making groups are as follows:

IT Governance and Strategy Decision Making Groups



6.0 Supporting the University's Strategic Objectives and Aims

The following Information and Technology strategic themes align with the University's strategic plan and translate into a number of prioritised programmes and projects that are outcome driven. Although separated into separate objectives and aims it is clear that all are interrelated and provide a holistic view of how information, systems and technologies contribute to the purpose and aims of the University. There five primary objectives and four supporting aims.

Primary Strategic Objectives

- Enable a personalised, enhanced local, international, transnational student and staff experience and life cycle,
- Support Student Centred, Flexible Learning, Teaching and Assessment through IT,
- Enable an Agile Resource Effective Curriculum,
- Support the development of a Modern, Civic University through Institutional Research, Collaboration and Innovation,
- Move to a Paper Light University,

Supporting Aims

- Facilitate institutionally effective and efficient business processes,
- Support the use of business information, intelligence and analytics to inform decision making,
- Improve Information and Technology Governance and
- Provide a modern, standard and simplified IT infrastructure.

Interdependencies

The IT strategy has a number of interdependencies with other internal strategies. The Digital Futures strategy as part of the Learning and Teaching Strategy 2013/14 – 2017/18 in particular. These synergies will be supported through the necessary communications channels such as the Digital Learning Sub Committee and through developing business and technical architectures.

7.0 The Key Strategic Programmes

A. Enabling A Personalised, Enhanced Student Experience and Life Cycle

STRATEGIC OBJECTIVE	KEY INITIATIVES
<p>A. Enable a Personalised, Enhanced Local, International, Transnational Student and Staff Experience and Life Cycle</p> <p>IMPACT ON THE UNIVERSITY</p> <ul style="list-style-type: none"> • Establish, build and manage effective personalised relationships with students throughout the student journey • Improved effectiveness and efficiency of these processes • Improved communications between staff engaged in student relationship management • Improved acquisition, engagement and retention of students national and international • Facilitation of web-based collaboration between students, staff, partners and suppliers 	<ul style="list-style-type: none"> • Analyse, understand and improve business processes across the student life cycle and their interactive experience • Implement the Microsoft Dynamics CRM Programme to automate, inform and provide self service capability with external partner • Implement a new self- service mobile friendly student portal and supporting mobile app • Integrate student content through integration with key corporate systems <p>KPIs</p> <p>Within three years contribute to</p> <ul style="list-style-type: none"> • Increased student numbers, through improved marketing, recruitment and alumni engagement • Increased student retention • Reduced business costs through enterprise platforms (reductions up to 30% post implementation) • Increase student access to services through self-service and mobile channels • Improved engagement with all partners, employers, students and staff • Increased success in the NSS over the period of the strategy

B. Support Student Centred, Flexible Learning, Teaching and Assessment through IT

<p>STRATEGIC OBJECTIVE</p> <p>B. Support Student Centred ,Flexible Learning, Teaching and Assessment through IT,</p>	<p>KEY INITIATIVES</p> <ul style="list-style-type: none"> • Roll out and embed lecture capture across the University, • DLE Review and development, • Introduce a DLE collaboration tool, • Implement technologies that support flexible, distance and open learning spaces, • Development of learning spaces in new builds (Coleraine, Magee and the Greater Belfast Development), • SRIS and HEAR development, • Enable students to access resources through their own devices (BYOD), • Review timetabling, <p>KPIs</p> <ul style="list-style-type: none"> • Increasing student satisfaction with teaching and learning resources evidenced by survey, • Learning spaces that meet all our student needs irrespective of location, • Measurable increases in student access to services through self-service and mobile annually over the period of the strategy, • New learning spaces commissioned on time and to budget,
<p>IMPACT ON THE UNIVERSITY</p> <ul style="list-style-type: none"> • Effective use and management of innovative learning and teaching spaces (physical and virtual) across the campuses that reflect pedagogical developments and facilitate collaboration in learning, teaching, research and administration. • Facilitate flexible and creative models of delivery supporting the development of full-time, part-time, distance and professional autonomous, lifelong learners • Provision well-developed future proof and intelligent learning spaces • Support the development of modern effective learning and teaching pedagogies with appropriate technologies 	

C. Enable an Agile Resource Effective Curriculum,

STRATEGIC OBJECTIVE	KEY INITIATIVES
<p>C. Enable an Agile Resource Effective Curriculum,</p>	<ul style="list-style-type: none"> • Phase 1. Agile development of the CMS through external suppliers • Automation of Key Information Set and HEAR • Integrate revised On Line Prospectus System • Phase 2. (i) Viability check and (ii) Documentation support • Phase 3. Review of timetabling requirements
<p>IMPACT ON THE UNIVERSITY</p> <ul style="list-style-type: none"> • A single digitised source of validated Curriculum (programme and module) data • Ability to review, re-purpose and present curriculum documentation • Improved quality of the curriculum • An evidenced base of resource efficient and effective courses • Efficacy of the approval process • Ability to successfully market the curriculum 	<p>KPIs</p> <ul style="list-style-type: none"> • 100% of programme and module provision is captured in year one of the strategy • Contribute to positive impact on the validation and revalidation process • Curriculum meets strategic objectives of the University • Improve engagement with all partners, employers, students and staff • Effective quality management and review • Increased success in the NSS scores • Meet the requirements of regulatory bodies • Support delivery of academic plan within budget

D. Support Institutional Research, Collaboration and Innovation,

STRATEGIC OBJECTIVE	KEY INITIATIVES
<p>D. Support the Development of a Modern Civic University through Institutional Research, Collaboration and Innovation.</p>	<ul style="list-style-type: none"> • Identify Research Management and Research Intelligence Tool • Consolidate independent research systems (REF. Management Tool, Ulster Institutional Repository, Research Grants and Contracts database and Research Students Databases) • Enable links to key supporting systems HR, Finance, Student Records • Enable live feed from consolidated research databases to University Web pages
<p>IMPACT ON THE UNIVERSITY</p> <ul style="list-style-type: none"> • Meet obligations with regard to open access and research data management • Identification of research strengths and ability to track and fund research performance. • Increase research impact and validate research results • Provide robust research reporting to senior management to enable evidence based decision making • Support the external requirements of and submission to the REF 2020 • Evaluate research performance against peers 	<p>KPIs</p> <ul style="list-style-type: none"> • Support increased headcount of research PG students in the strategy period • Increased fee Income from taught Postgraduates • Increase in the research grant applications submitted per member of academic staff • Commercialisation of research licenses signed • Storage, management and reporting of research data meets needs of active researchers. • Evidenced researcher and team performance to allow promotion, recruitment and retention decisions. • Increased interdisciplinary and collaborative research.

E. Move to a Paper Light University

<p>STRATEGIC OBJECTIVE</p> <p>E. Move to a Paper Light University,</p>	<p>KEY INITIATIVES</p>
<p>IMPACT ON THE UNIVERSITY</p> <ul style="list-style-type: none"> • Transparent and reduced operating costs • Digitisation of all University Committees • Digitisation of Mail Room and Print Room Facilities • Accessible, secure, digital and flexible communications to an enterprise collaboration platform. • Electronic Records and Document Management by default • Implement the University’s Carbon Management Plan. 	<ul style="list-style-type: none"> • Planning, provisioning, and governance of SharePoint to include electronic, records and document management, • Office 365 Hybrid Deployment (including file storage, collaborative sites, workflow support and development), • Implement a new self- service mobile friendly portal, • Paper light Meetings of Key University Committees including SET, Council and Senate, • Proposed Document Services Centre (Digital Business Services), • Promote online assessment and feedback through Digital Futures <p>KPIs</p> <ul style="list-style-type: none"> • Migration of all shared drives by start of the academic year 16/17 • Document Services Centre fully functional by 2017 and cost neutral • Measurable reduction in paper and storage space • Meet the electronic storage demands of transfer of records from Jordanstown to Belfast • Meet Carbon Reduction Plans

F. Facilitate Institutionally Effective and Efficient Business Processes,

<p>SUPPORTING AIM</p> <p>F. Facilitate Institutionally Effective and Efficient Business Processes,</p>	<p>KEY INITIATIVES</p> <ul style="list-style-type: none"> • Increase business and information analysis capabilities to enable deployment of CRM and SharePoint • Apply service management and continuous improvement methods where applicable (ITIL, LEAN, AGILE and BPA) • Implementation of technical platforms that support and enable redesigned processes and workflows (CRM, CMS, SP). • Enable unified communication through on demand internet conferencing, instant messaging and voice (Skype for Business) • Allow a 'one campus' approach to work through web enabled platforms. • Adoption of on-line payment processes and technologies through WPM
<p>IMPACT ON THE UNIVERSITY</p> <ul style="list-style-type: none"> • Transparent and reduced operating costs • Effective and efficient redesigned 'core' business process • Reduce duplication and information siloes supporting these processes • Improved governance of business processes • Increased expenditure of revenue on those activities directly related to the student experience • Understanding of the payment landscape • Continuous improvement and management of change takes place in partnership with problem owners 	<p>KPIs</p> <ul style="list-style-type: none"> • 20-30% increase in efficiency of processes supported by enterprise platforms • Improved 'customer' (student, staff, other) satisfaction • Increase expenditure on student facing services • Reduced internal and external costs

G. Support the use of business information, intelligence and analytics to inform decision making,

<p>SUPPORTING AIM</p> <p>G. Support the use of business information, intelligence and analytics to inform decision making,</p>	<p>KEY INITIATIVES</p> <ul style="list-style-type: none"> • Review the BI Strategy • Review data models, definitions, quality and consistency • Implement centralised data warehouse • Review the BI platform. • Develop relevant and meaningful strategic, tactical and operational performance information and provide through dashboards • Review analytics capabilities to support key business areas (Learning, teaching, research, financial, workforce, operational)
<p>IMPACT ON THE UNIVERSITY</p> <ul style="list-style-type: none"> • Key decision processes understood each with their own performance measures and appropriate level of granularity • Consistent and simplified view of data across the university • Data repository allowing data to be imported or accessed across multiple corporate systems • Reduce stand-alone data repositories • Integrated, relevant, accurate and timely information 	<p>KPIs</p> <ul style="list-style-type: none"> • Improved quality and consistency of reports and reduced administrative efforts, • Improved tracking of organisational performance indicators against the University's strategies, • Reduction in costs and effort through improved BI • Meaningful consistent view of information for individual and corporate use.

H. Improve Information and Technology Governance

<p>SUPPORTING AIM</p> <p>H. Improve Information and Technology Governance</p>	<p>KEY INITIATIVES</p> <ul style="list-style-type: none"> • Embed budget management process across ISD to improve predictability, reduce cost and risk, • Ensure categories of spend are fully captured based on the JISC Financial X-Ray service catalogue. • Training and Development plan for ISD staff further developed • Implement CORE/Simitive for performance review • Remove duplication through centralised management of common IT resources • Ensure project sponsors are accountable for realisation of benefits • Implement software and hardware asset management • Deployment of the Bright-works SharePoint App for project management • Publish ISD performance metrics on web-site
<p>IMPACT ON THE UNIVERSITY</p> <ul style="list-style-type: none"> • A stable IT budget that supports the strategic priorities of the University and provides predictability • Align staff to new delivery model • Improved IT security and Information assurance • Formal prioritisation, review and approval of IT projects • Project Management based on Standardised Methodologies (PRINCE 2) and Agile • Measurement, report and review of ISD performance • Improved Audit position 	<p>KPIs</p> <ul style="list-style-type: none"> • Clear measureable benefits of IT investment and spend • Predictable and continually improving budget position in line with sector • ISD Projects aligned to the University's key strategic aims • Projects with consistent documentation delivered on time and to budget • Adherence to the project management process • IT risks identified and managed • Satisfactory Audit status

I. Provide Modern, Standardised and Simplified IT Infrastructure,

<p>SUPPORTING AIM</p> <p>I. Provide a Modern, Standardised and simplified IT environment ,</p>	<p>KEY INITIATIVES</p> <ul style="list-style-type: none"> • Implement Office 365 including staff email with single sign on to services • Implement a Cloud first policy where feasible and provide a brokerage service to the cloud. • Centralise IT services including server rooms • Automate account provisioning, management and de provisioning. (identity and access management as a service) • Review the technical architectures in line with hybrid on premise and cloud strategy • Network access control and zoning • Increase coverage of high speed secure (wave 2) wireless networking through wireless tender • Increase utilisation of the Data Centre as an asset • Supported Staff Environment deployed across academic and administrative sections <p>KPIs</p> <ul style="list-style-type: none"> • Increased 'Customer' satisfaction. • Clear decision processes for authorisation and access for each dataset • Meet 99.9% availability of services • Reduction in number of log ins and passwords needed for University systems • Year on year reduction in costs of infrastructure • Contribute to the carbon management plan • 95% coverage of the SSE across the institution • Provide ubiquitous wireless coverage
<p>IMPACT ON THE UNIVERSITY</p> <ul style="list-style-type: none"> • Transparent and reduced operating costs • Accelerate application integration and performance where possible. • Greater flexibility to scale or reduce operations • Secure, resilient, disaster recovery and IT security that supports asynchronous delivery and support of learning and teaching, • High speed networks supporting both voice and computer communications • Improved access to data anytime/anyplace/anywhere • Make significant impact on carbon management plan • A coherent long term application architecture aligned to the business 	

8.0 The New Delivery Model

The need to continuously show value in the delivery of IT services is expected to gain momentum during the lifetime of the strategy. The evolution of social, mobile, analytics and cloud (SMAC) based technologies also provide opportunities to innovate across the University. To respond and to take advantage of these trends ISD will increasingly shift repetitive and well-understood tasks to vendor partners. In future the support and digital transformation of the University will increasingly rely on external partners. As our experiences with these partnerships mature they will become more strategic.

Indicative timelines and a high level implementation sequence for the IT strategy are shown in Appendix A.

9.0 IT Funding and Budgeting Principles

The finances needed to support the delivery of the IT strategy requires consideration of the levels of spend on IT, how that spend is made transparent and managed, IT funding mechanisms and the charging philosophy.

The level of spend on IT in the University is within sector norms. Work will continue to ensure this spend is targeted in areas that directly support the University's key business areas. A significant amount of spend occurs outside of corporate IT. We will continue to make visible where this is occurring across the service catalogue and seek to centralise spend where there is opportunity to apply economies of scale making best use of resources.

We will continue to promote IT as a service. This allows new operational and consumption models to be implemented that require ISD to bundle, promote, price and broker services to meet user needs. ISD will continue develop 'show back' policies to detail actual costs to deliver services and the value and business improvements achieved.

10.0 Information Services Division Strategic Direction

The strategic direction of ISD is shaped by both the internal and external environment. This includes its customers, their expectations, and developments in the Higher Education sector, funding and the pace of technological change. The challenge for ISD is to reshape themselves to adapt to these changes. Previously ISD built and customised complex software, hardware and communications systems to support business needs. Adoption of the principles and practices of IT as a service (ITaaS) will continue. This does not mean a reduction in ISD staff resources rather a skill shift. Work will continue to provide staff with the training and experience necessary to lead and support the University through the provision of information and technology services.

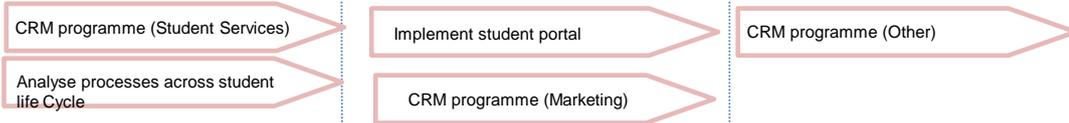
11.0 Risks to the Delivery of the Strategy

Risk Short Description	Impact	Mitigation
Lack of understanding of student needs	Poor scores in the NSS, problems with attracting and retaining students	Ensure student engagement in requirements analysis
IT investments are not aligned to approved University strategies	IT spend in wrong areas and not supporting key University business areas	IT strategy group and projects prioritisation
Impact of change on University structures and process underestimated	Poor management of change, poor implementation, no benefits	Change management embedded into projects at early stage
Poor project management and control	Time, cost and quality issues in the strategy's programmes and projects	Introduce project control procedures throughout life cycle including monitoring with Brightworks
Stakeholders understanding and support of the IT strategy	Difficulties in implementation of the strategy	Involve 'customers' in the strategy process, increase 'e' leadership skills
Slow delivery of projects	Projects begin to 'stack' unable to complete, impact on costs and quality	Agility in project management and delivery. Assign responsible autonomy and recruit to vacant posts in ISD.
Mismatch between business needs and technical architecture	Poor integration of information, increasing complexity and risk to technical architecture	Undertake enterprise architecture review, increase focus on information
Procurement issues with agile sourcing	Protracted delivery of major programmes and projects	Provide templates for procurement routes
IT maturity and skills of wider organisation	Enterprise platforms ignored, benefits not delivered	Involve users in projects including training and support in delivery
Inability to capture pedagogic requirements	Learning spaces do not fit with evolving pedagogies	Engagement with academics to present requirements
Greater Belfast Development requirements increase 2015-2018	Commitment of key members of ISD	Rationalise projects portfolio, delegate where possible, fill vacant posts
IT budget not predictable and stable	Under or overspend, duplication of work	Align budgets to University business and IT road maps, track performance
Poor management of external partners involved in the delivery of projects	Requirements not met, poor return on capital deployed	Increase training and experience of vendor management
Lack of succession planning	Loss of specialist knowledge	Develop role profiles
ISD staff resource, skills and capabilities to implement the strategy	ISD budget underspent, operational support issues continues at > 80%	Use external partners for repetitive commoditised processes, build strategic partners

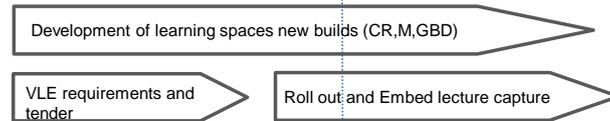
Appendix A. High Level Implementation Sequence and Timelines

Short Term < 6 months **Medium Term 6 to 18 months** **Long Term 18 to 36 months**

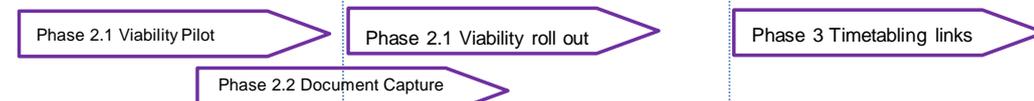
A. Enable a personalised, enhanced Student Experience and Life Cycle



B. Support Student Centred, Flexible Learning, Teaching and Assessment through IT



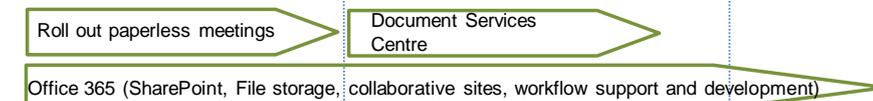
C. Enable an Agile Resource Effective Curriculum,



D. Support Institutional Research, Collaboration and Innovation



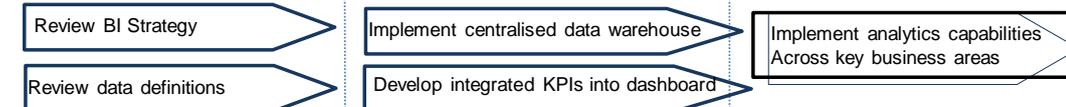
E. Move to a Paperless University,



F. Facilitate Institutionally effective and efficient business processes,



G. Support the use of B. I. and analytics to inform decision making,



H. Improve Information and Technology Governance



I. A modern, standardised and simplified Infrastructure



Appendix B.

Progression from the Previous IT Strategy (2010 -2015).

It is useful to reflect on the progress of the previous IT strategy and the context in which it was developed. The University's main institutional drivers in respect of research informed learning and teaching as well as its local, national and international position relative to its competitors remain common aims. Resource and environment constraints identified in the 2010 - 2015 strategy have also intensified. There remains a dichotomy in the provision of IT services between those specialist systems and applications that are provided at a local level for academics and researchers and those services that need to be provided corporately.

The implementation of the strategy of 2010 -2015 is reviewed under three headings, governance and audit, staffing, systems and technology.

Governance and Audit

Issues with IT governance in respect to general IT controls and project management were identified by our auditors as significant issues early in the strategy period. Information assurance and security are central in an organisation heavily dependent on information. Satisfactory audit ratings against IT project management and general controls was achieved in 2012/13 through changes in structures, rolls and toolsets that include the following:

- Our IT strategy is clearly articulated through the primary business objectives and supporting aims
- The status and appropriateness of the existing portfolio of IT investments is monitored through the IT strategy group, the IT portfolio is reviewed and prioritised by the University's IT prioritisation sub-group and communicated to our most senior information committee LISASC to insure alignment with organisational aims,
- Improved budget management, oversight and performance analysis is now in place,
- We have developed strong and consistent processes for the intake and tracking of projects, which includes deployment of the Brightworks SharePoint application,
- Benefits assessment and realisation ensures that benefits are forecast in advance and reviewed where required,
- We have reviewed, assigned costs and bench-marked our IT devolved and central service portfolio for 2013/14 using the JISC financial X-ray to help provide a total cost of ownership,
- Performance measures are produced across the ISD divisions to assess the delivery of business value including the experiences of our users,
- There is a clearly articulated approach to IT risk that is consistent with the corporate risk approach and the methodology for calculating risk,
- Single points of failure and areas of risk across the applications, infrastructure and customer services sections divisions have been identified and remedial action underway,

Progress has been made in information assurance and security, notable highlights include:

- The build, commissioning and successful transfer of systems and services into our new Coleraine Data Centre on time and to budget with little disruption of service,
- The introduction of Eduroam to facilitate the mobility of staff, students and researchers,
- The introduction of a secure, remote access service,
- Network Access Control software is deployed to enforce identity challenges to ensure that users have the latest anti-malware engines and security updates before endpoints devices can connect,
- Progression of the deployment of the secure staff environment (SSE) which now in all administrative areas,
- Extension of zoning of services within the new Data Centre.

Staffing

A key requirement of the 2010-2015 strategy implementation was to reduce the staff resource spent on 'business as usual' activity and legacy systems through the realisation of a new sourcing mechanisms and models of delivery. This requires ISD to 'buy rather than build' services and applications using a configurable ecosystem of platforms. To do so requires greater emphasis on understanding our customers, their processes and requirements. Managing requirements allows ISD to broker services for the University through framework agreements and manage the vendor through the period of the contract.

Understanding requirements, optimising the blend of delivery models and managing the vendor necessitates updating ISD roles and skills to accommodate changing IT management and service delivery models. The following has been achieved:

- Role profiles and personal development plans produce for all IT staff within ISD,
- Training plan is developed to address needs,
- Delivery of training will continue.

Systems and Services

In the 2010 -2015 strategy there were 12 strategic objectives. Progress has been made against all these objectives in respect of:

- Agile Development and implementation of a Curriculum Management System with external partner
- Student email moved to Office 365 (cloud), staff move underway,
- Implementation of the E5 Financial System,

- The WPM payments pathways were successfully implemented including the use of PayPal to allow card transactions for services such as fees, accommodation and library fines,
- Introduction of an on-line store to reduce cash transactions and provide products on-line including short courses,
- Selection and implementation of the CORE Human resources and payroll system which is hosted externally and provides self service capability,
- Further development of the Microsoft ecosystem to including the introduction of SharePoint and Microsoft Dynamics CRM.
- Implementation of an on-line prospectus including integration with the Curriculum management system and student record system.
- Unified Communications using IP telephony replacing the analogue system,
- Student email accounts are now in Office 365 with One Drive for Business for storage,
- The NorMAN service is now live providing first line support to IT services out of hours,
- UniDesk Service desk software is now in place
- Virtualisation of our server estate.

APPENDIX C

REFERENCES

Jisc (2013) Developing Student Digital Literacy [online] www.jisc.ac.uk/guides/developing-students-digital-literacy