



Queen Margaret University  
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# An IT Digital Strategy for QMU 2019 to 2023

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A one page strategy



# Introduction

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## Context

As with every other business, Queen Margaret University, QMU, relies on the quality of its digital platforms and services to deliver excellent customer service. This is true, now more than ever

The Higher Education market is uniquely placed as its core customer base comes from a generation of digital natives that have only known a world where information and services were available at their fingertips. It is in this environment that QMU operates on a daily basis.

With the university's competitors constantly looking for new ways to attract and retain the decreasing traditional customer base of prospective students, QMU needs to continue to be an attractive option, as well as expanding into the growing non-traditional market. QMU needs to not only retain existing undergraduate students but also attract them back as postgraduates and on into lifelong learning. Alongside the above is the demand for world class research and the need to maximise the commercial opportunities available to the university.

Finally, there is the requirement to provide as productive and effective a digital workspace for colleagues as possible.

This is all within the context of increasing financial restrictions. It is in this competitive and demanding landscape that QMU IT sets out to define a strategy for the next five years.

## Strategic Alignment

The IT digital strategy is a key enabling strategy of the Campus & Commercial Services Infrastructure strategy and the wider university strategy. To restate, the overarching goals identified in QM150 are as follows: -

1. An excellent student experience
2. A highly visible and strongly promoted academic portfolio
3. A strong research culture
4. An increased international reach
5. A culture of knowledge exchange and commercialising which embraces and supports entrepreneurialism
6. A University without borders
7. Significant fundraising and development
8. A vibrant campus with appropriate facilities
9. Motivated, confident, engaged and inspired staff

## Methodology

This document provides a strategic outline for the definition and delivery of IT services for the years, 2019 to 2023. It is based on an understanding of not only the technology and process environment in which QMU needs to operate, but also of the business challenges currently being faced by organisations that operate in the Higher Education market. Extensive use was also made of Gartner research to inform our thinking when defining this strategy and this research is referenced throughout the document.

# Information Technology @ QMU

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QMU Information Technology (QMU IT) delivers digital services for customers across the university. This covers, staff, students and commercial customers as well as visitors to the campus.

The department is broken down into four teams:

- Technology
- Applications Development
- Project Management
- Media Services

The following specific services are provided:

**User Productivity:** IT provides customers with a digital environment that enables effective performance in all activities. Services include virtualised desktop, printing and cloud storage solutions.

**Administrative Systems:** IT provides solutions that support professional services teams. Services include financial systems, security, sports, accommodation and student records. Where appropriate IT have implemented automation tools for administrative processes through digitisation and business process workflow allowing resource to concentrate on more value adding tasks.

**Collaboration Services:** IT promotes information sharing through communication and collaboration, enabling the QMU community to work together effectively. Services include online collaboration, voice, video conferencing, messaging and email.

**Data Analytics & Decision Making:** IT enables decision makers by providing reporting and business intelligence tools. Services include data analysis and mining through a data warehouse, predictive analytics, creation of interactive dashboards, data visualisation, and ad hoc reports to inform evidence-based decision making.

**Project Management Services:** QMU IT offers skilled project management services through a dedicated Project Management Office. Services offered include Project Management, Business Relationship management and user group engagement.

**Teaching & Learning Technology:** IT supports the delivery of excellence in teaching by the delivery of leading-edge technology. This includes resources such as VLE, AV technology in class and specialist rooms and lecture capture.

**Mobile & Web Services:** IT empowers the QMU community through the use of secure web and mobile solutions. Services include mobile based student information portals through custom application development, business process automation solutions supported by machine learning, website build, hosting and management, user experience analysis, MyQMU (mobile based student information portal) enhancements, and mobile app development.

**Media Services:** The department provides support for all AV and media services solutions across the university, supporting both staff and student activity. Support is also provided to the commercial team and their customers to host successful external events.

# Market Drivers

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## External

The University operates in an environment over which, in many areas, it has little or no control both politically and financially. Issues such as BREXIT, central funding and HE policy having a significant impact on the university's business landscape and which are outside the university's ability to influence to any extent.

In addition, all universities now compete in an increasingly dynamic marketplace where the customer base is being chased by multiple providers.

Alongside this, there is the increasing competition coming from alternative providers of accredited education that are disrupting the traditional higher education business model.<sup>1 2 3</sup>

It is in this new global and digital marketplace that QMU IT has to ensure the university can continue to attract and retain high calibre students across all its courses.

## Internal

Being one of the largest areas of investment within the university, it is imperative that value for money is sought at every opportunity. This in turn drives strategic decision making as new technology is leveraged to enhance student experience and increase efficiency across the university.

QMU IT is fully aware of the pressure on university budgets and the need to get best value from suppliers of all services. This need for fiscal prudence however needs to be balanced against the increasingly demanding expectations of staff and students in terms of usability of systems and access to digital resources.

With the pressure from both cost increases and increased use of digital resources, the balancing act of more from less is an ever-present challenge and one that places pressure on QMU IT to ensure that all priorities are met as far as possible within available budgets.

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<sup>1</sup> <https://www.dysoninstitute.com/the-degree/>

<sup>2</sup> <https://blogs.wsj.com/cio/2017/10/03/capital-one-wants-to-train-all-employees-in-technology/>

<sup>3</sup> <https://eu.udacity.com>



Initial Teacher Education starting  
in QMU, September 2019

# Progress So Far (2015 to 2018)

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The last 4 years has seen transformational change in the services provided by QMU IT and the technology platform that underpins all university activity, both academic and commercial.

A 5-year roadmap was developed in 2015 which outlined the activities that would need to take place to the culture, organisation and solutions platform within QMU IT. This has now mostly been delivered with the remaining elements planned for delivery in 2019.

## Technology Transformation

A key focus of the transformation programme has been on the technology platform used across QMU and ensuring that the basic systems were in place to run the business.

In 2015, most systems used to support university activity were either out of support or very close to it. Several key systems were failing and in need of urgent replacement, and all systems were suffering from under investment. This has now been addressed.

Beginning with server and storage services in 2017, all core platforms have been replaced, including local area networks, wireless connectivity, server platform and data security.

A process of 'Cloud First' has also been introduced which will be developed upon in the new strategy. The above activity has seen improvements in NSS scores as a result, and further improvements are expected following the rollout of a new desktop environment based on VMware to students in 2018.

Key initiatives delivered over the past 4 years include

- Implementation of leading edge DellEMC HCI platform
- Delivery of industry standard Cisco core and access network infrastructure
- Cisco Wave 2 wireless connectivity throughout campus

## Applications Transformation

Alongside this, extensive development work has been carried out on the multiple in-house and third-party applications and data interfaces that were in urgent need of stabilisation.

Once the initial platform stabilisation work was completed, development focussed on delivering innovative digital solutions for both staff and students.

This includes new mobile apps for students as well as digitisation of multiple forms used to support business processes. Students and staff are also benefitting from a new EPOS system supporting contactless and mobile payments.



## Governance Transformation

A key element of the transformation programme was the delivery of robust programme governance processes, supported by a Project Management Office. This led to the board approval of a new project governance and reporting process for the university.

QMU has benefitted from this transformation through the successful delivery of multiple projects as well as the greater input from the IT team when defining and delivering strategic objectives.

The creation of the Project Management Office has also delivered benefits for the university through support given to teams both within and outside IT. It is expected that the profile of the PMO will continue to grow as the university looks to re-engineer key business processes and improve its project delivery.

## Organisational Transformation

The past four years has also seen significant improvements in the service delivery of the IT team. A reorganisation in 2015/16 and subsequent recruitment has created a customer focussed team that has clear deliverables and objectives.

This transformation has allowed the QMU IT team to develop into a true strategic partner and digital innovator for the university.

With the underlying platforms and services now largely stabilised and improved, the focus needs to move to how QMU IT can help to deliver real process and experiential changes for staff and students.

The work required to achieve this is the subject of this strategy document.



QMU IT begins work on planning and procurement for the Technology Transformation programme

2016

2017

QMU IT implements one of the first Hyper Converged Infrastructures, HCI, in UK Higher Education

Wi-Fi infrastructure upgraded to Cisco Wave 2 throughout campus

Campus network fully upgraded

Implementation of student mobile app providing real time information

Campus catering solution replaced with fully digital solution including mobile app

Rollout of new student virtualised desktop environment

Students and staff given access to Gartner world class research

QMU agrees new project governance process

QMU rises 16 places in Guardian League tables measured in 2018

2018

# Looking Forward (2019 to 2023)

Gartner have identified the following as the top *priorities* for Higher Education CIO's<sup>4</sup>

Higher Education (n = 173)		Top Performers (n = 225)		Typical Performers (n = 2,244)		Trailing Performers (n = 274)		
1	Business or financial goals	25%	Digital initiatives	31%	Digital initiatives	23%	Revenue/business growth	24%
2	Revenue/business growth	24%	Revenue/business growth	20%	Revenue/business growth	21%	Operational excellence	15%
3	Digital initiatives	17%	Operational excellence	16%	Operational excellence	13%	Cost optimization/reduction	11%
4	Operational excellence	11%	Customer experience	11%	Customer experience	9%	Digital initiatives	10%
5	Modernization (of legacy systems)	10%	Data and analytics	7%	Cost optimization/reduction	8%	Business or financial goals	8%
6	Security	9%	New products and services	7%	Business or financial goals	7%	Modernization (of legacy systems)	7%
7	Improve or maintain brand or reputation	8%	Cost optimization/reduction	7%	Business model change	6%	Data and analytics	7%
8	New products and services	7%	Artificial intelligence or machine learning	6%	Industry-specific	6%	Industry-specific	7%
9	Customer experience	6%	Business model change	6%	Data and analytics	5%	ERP	6%
10	Cost optimization/reduction	5%	Industry-specific	6%	New products and services	5%	Business model change	5%

Base: All answering, excluding prefer not to answer, n varies by segment  
 Showing the 10 most common answers per segment, coded open-text responses, multiple responses allowed.  
 Q: What would you say is your organization's top priority for 2018 and 2019?  
 ID: 368225

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Clearly, support of key business and financial objectives are the top priorities with 49%. These priorities place demands on IT teams to ensure that all services they provide are aligned to the overall business objectives of the university. The delivery of scalable and flexible digital solutions is key to this.

Closely following are Digital Initiatives and then Operational Excellence. Again, these priorities are very closely aligned. The delivery of digital transformation across HE's will in turn support operational excellence if fully leveraged. Digital Initiatives in the context of QMU could cover digital teaching strategies and the digitisation of business processes.

Looking further ahead, QMU could be looking at the complete digitalisation of a value stream such as prospect engagement and recruitment.

To underline this, in another Gartner report they state that "Relying solely on traditional education delivery models will not be financially sustainable for most institutions and will be a driving force for digital transformation"<sup>5</sup>

<sup>4</sup> '2019 CIO Agenda: Higher Education Industry Insights' – Gartner - October 2018

<sup>5</sup> 'Predicts 2019 – Higher Education – Digital Transformation in Progress' – Gartner – September 2018

Key to underpinning business success is the continual refresh and improvement of underlying technologies and the security of those platforms. These both came in at 5 and 6 in the CIO survey.

**Game-Changing Technologies**  
Percentage of Respondents

	Higher Education (n = 172)		Top Performers (n = 230)		Typical Performers (n = 2,329)		Trailing Performers (n = 276)	
1	Artificial intelligence/machine learning	24%	Artificial intelligence/machine learning	40%	Artificial intelligence/machine learning	25%	Artificial intelligence/machine learning	24%
2	Industry specific	24%	Data analytics (including predictive analytics)	23%	Data analytics (including predictive analytics)	25%	Data analytics (including predictive analytics)	21%
3	Data analytics (including predictive analytics)	17%	Cloud (including XaaS)	12%	Cloud (including XaaS)	10%	Cloud (including XaaS)	14%
4	Cloud (including XaaS)	8%	Digital transformation	10%	Internet of Things	10%	Internet of Things	11%
5	Digital transformation	8%	Mobile (including 5G)	7%	Digital transformation	9%	Digital transformation	7%
6	ERP	7%	RPA	6%	Mobile (including 5G)	6%	Industry-specific	5%
7	CRM	5%	Internet of Things	6%	Automation	5%	Business intelligence	5%
8	Immersive experience	5%	Blockchain	5%	Blockchain	4%	Automation	5%
9	Internet of Things	4%	Automation	3%	Industry-specific	4%	Blockchain	5%
10	Business intelligence	3%	Information technology	3%	Business intelligence	3%	Mobile (including 5G)	5%

Base: All answering, excluding prefer not to answer, n varies by segment  
Showing the 10 most common answers per segment, coded open-text responses, multiple responses allowed.  
Q: Which technology area do you expect will be a "game changer" for your organization?  
ID: 368225

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From the same report, the above graph shows those *technologies* that HE CIO's consider to be the ones that will drive biggest positive impact for their institutions.

Clearly, AI and machine learning are considered the top priority by respondents in all quartiles. This is something that QMU should be aware of and position themselves to take advantage of wherever relevant.

Industry specific can cover all solutions that drive an HE business and QMU IT needs to ensure it is championing and supporting initiatives that support key business processes.

Data analytics is another key area that QMU should be focussing on over the next three years to the point where it is embedded in all activity and drives effective decision making.

With the above challenges for Higher Education, as well as the rise of disrupters in the market, what role does IT have in supporting business change? From the same Gartner report, the table on the next page details response from HE CIO's on that particular question.

## Importance of Technology to Enable Business Model Change

	Higher Education (n = 86)	Top Performers (n = 146)	Typical Performers (n = 1,165)	Trailing Performers (n = 88)
1. Not at all	0%	0%	0%	0%
2. Slightly	0%	0%	1%	7%
3. Moderately	14%	1%	5%	15%
4. Very	53%	25%	49%	51%
5. Extremely	33%	74%	46%	27%
<b>Mean</b>	<b>4.2</b>	<b>4.7</b>	<b>4.4</b>	<b>4.0</b>

Base: Organization has already changed within the past 2 years/is in process of changing business model

Q: How important is information and technology in enabling this change to your organization's new business model?

ID: 368225

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This shows that across the board, though predominantly in the Top Performer category, IT is seen as very, or extremely, important in enabling business change and the shift from IT being seen as technology implementors to effector of change is demonstrated clearly.

QMU IT have taken the above results and, utilising our understanding of QMU's specific challenges and the wider IT technology market, factored them into the 5-year plan that is presented in this document.



# SWOT Analysis

# S

## Strengths

Highly skilled IT team and management that are committed to the success of the university

Developing culture of empowerment, openness and respect across the IT team, inspiring a focus on excellence and delivery

Transformation to agile processes enabling improved client engagement and responsiveness

Improved governance processes enabling effective decision making on technology investments

New technology infrastructure platform throughout campus including servers, storage, networks and Wi-Fi

# W

## Weaknesses

Lack of clear business strategy limits IT's ability to plan effectively for the future

Lack of Learning & Teaching strategy limits IT's ability to plan effectively for the future

Limited resource capacity and multiple competing demands impede ability to deliver timely solutions

Recruitment and remuneration practices reduce ability to find and retain high quality team members

Lack of Business Analysis resource within the department reduce the ability to maximise the benefits of new solutions.

Resistance to change risks full benefits realisation of new solutions.

# O

## Opportunities

A digitally native student body expecting an academic experience utilising modern technology

Innovative technology tools and platforms will contribute to the success of the university in achieving its strategic goals.

University size should support flexibility and speed of response.

Platform scalability via 'Cloud First' practice allows for global reach in emerging markets.

# T

## Threats

Increasing cyber threats put university and client data, as well as the reputation of the institution, at risk

Competition for technology talent impacting ability to recruit appropriately skilled staff

Risk of highly fluctuating currency markets impacting budgets.

# Strategic Themes & Commitments





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Queen Margaret University operates in an extremely competitive market with a declining demographic of customers in the 18 to 24 age range. To respond to this changing landscape, the university needs to be able to adapt quickly and offer potentially disruptive solutions.

This need places demands on QMU IT to ensure that it is able to influence and support the digital ambitions of the university, in whatever form they may take.

The drive towards greater digitalisation of processes overarches all other themes in this strategy and will be an area of key focus for QMU IT, supporting all other areas of the university.

According to a recent EDUCAUSE report *"Digital Transformation requires college and university leaders to understand the extent of this transformation and initiate change—closely linked to an institution's business model—to cultivate new practices that reflect today's technology-enabled and technology-driven world."*<sup>6</sup>

Further, as with other universities, QMU is burdened by an excess of paper and manual based processes which do not support the digital environment and acts as blockers to quality student engagement and satisfaction through the inability to analyse digital information.

These processes need to be reviewed and challenged where necessary with the aim of introducing fully digital processes, that allows students to students have a truly personal digital experience.


As Gartner state *"The institution must now do business on the students' terms, not its own."*<sup>7</sup>

However, it is not only the student touchpoints that are open to digitalisation. Internal processes also need to be reviewed to ensure that efficiencies are maximised.

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<sup>6</sup> '7 Things You Should Know About Digital Transformation' – EDUCAUSE October 2018

<sup>7</sup> 'Predicts 2019 – Higher Education – Digital Transformation in Progress' – Gartner – September 2018



The move towards both personalised and digitalised student to institution interactions throughout the student's academic career and beyond necessitates a digital landscape that is both scalable and flexible, with business processes that are lean and efficient.

IT plays a key role in this digital journey, not only by providing technology expertise but also in managing the analysis that supports the transformation and the change that follows.



## Personalised Student Experience

In September 2018, Gartner reported that *“The student experience of the future will be the product of an intensive redesign process based on the liberal use of data, and on utilising technologies...to make student interactions with the institution personal, integrated, targeted and student-controlled.”*<sup>8</sup>

It is also clear from looking at user data that QMU’s students are consuming data at an ever-increasing rate from mobile devices rather than the desktop.

The student of today comes from a generation of digital natives that take internet access for granted and expect data and services to be ‘always on’.

The challenge for QMU over the next 5 years is to ensure that its digital platforms deliver the levels of accessibility and personalisation expected by our students.

Students are now interacting with the university as customers and expecting the same level of experience available to them in the outside world. Even students whose fees are covered by government expect to be treated as customers by the university. This covers their education and social interactions as well as how university administration responds to them.

For students the technology network is vital. The university campus is not only a place for students to learn, live and socialise.

The graduates of tomorrow have grown up with technology and therefore have an expectation that they will always be connected and have online access to enhance their lives. Social interaction has moved online, and the way young people consume media has changed to become something they access immediately and stream on-demand.

All of the above are underpinned by digital solutions, be they infrastructure or software.

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<sup>8</sup> *‘The Future of the Student Experience is Personal’ – Gartner - September 2018*



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As with all other organisations, key business decisions need to be supported by accurate and timely access to data.

For universities this means that the vast range of data held on students as they progress through their academic career needs to be easily accessible for analysis and response. This data in turn is used to enhance student personalisation and evidence-based business decisions.

Analytics will be used to extract patterns of learning and amend delivery practices to provide the optimum delivery of support. Personalisation of delivery and support will be a key strategy in delivery of the data analytics theme.

Access to data also allows the university to make informed business decisions when determining such things as portfolio mix or collaboration opportunities.

Collection of this data covers not only traditional systems, but the ever-increasing array of internet connected devices that form part of the university experience, placing greater demand on the core technology infrastructure that supports those devices.

The main aim of the data analytics theme is to increase retention, enhance outcomes and support an excellent student experience through personalisation.



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Information Security is continuing to increase in profile and is now a strategic risk for most organisations. This was highlighted by the very public attacks on NHS systems in 2016.

Higher education network environments however offer very specific challenges that need to be addressed due to the open learning environment in which they operate.

They do, however, have the same need to keep data secure as any other organisation. The challenge is to ensure that all data and networks used within the university is kept secure while still allowing ease and openness of access. In addition, data needs to be used ethically and compliantly, increasing student confidence in the institution and improving business and academic outcomes.

There has also been a steady increase in, and professionalism of attacks such as phishing. Institutions in the sector have lost money to fraud linked to phishing and QMU IT remains vigilant to the potential for more sophisticated attacks being made on our networks. Higher education is reported as being the third highest sector for attacks.

Added to the risk of malicious attack is the risk of data loss caused by human error or malicious intent. The introduction of GDPR in 2018 has given the ICO increased powers and raised the financial penalties that can be applied to organisations that experience data breaches.

Finally, our partners, particularly NHS bodies, are increasingly demanding levels of security that are in excess of anything seen before.

These can only go so far however as the greatest risk to any organisation is its people. IT will therefore support any moves by the university to raise awareness and training across its personnel of their need to be vigilant and secure when handling sensitive data.



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In an organisation the size of QMU there is no longer any need to maintain large on-premise data centres, hosting applications and databases. The market is now sufficiently mature for the university to start planning to have most key applications and databases hosted externally.

There are various 'as a service' delivery models which could be looked at to reduce the hardware footprint of the university with the associated knock on benefit of carbon emission reductions.

Over the next five years QMU IT will ensure all opportunities are taken to leverage 'as a service' offerings where appropriate.

Also, as the current HCI platform comes up for replacement, planning will begin to investigate how public cloud offerings can be used as an alternative to procuring and implementing on site equipment.

Delivery of a Cloud First approach will ensure that QMU has the future infrastructure to flex based on demands as well as put in place more robust business continuity planning.

The move will also allow the university to move to a more flexible costing model for technology infrastructure.

Strategic Theme	Commitment	Benefits	Examples
<b>Student Experience</b>	<p>QMU IT recognise that the student is its key customer and that delivery of an excellent student digital experience is one of our key measurables.</p> <p>All IT activity will be with the student experience in mind and we will seek regular feedback from them on our progress on achieving this.</p>	<p>Increased student recruitment supporting income generation.</p> <p>Improved student retention</p> <p>Improved NSS results</p> <p>Delivery of high quality learning experience for students through use of innovative digital solutions</p>	<p>Digital Campus</p> <p>Development of personalised mobile apps</p> <p>Development of further mobile apps and student portals, digitally enabling students and their data.</p>
<b>Digital Transformation</b>	<p>Support of process re-engineering and digitalisation is recognised as key to the future success of the university.</p> <p>QMU IT will focus on supporting this work and championing digital transformation across the campus.</p>	<p>Efficient business processes supporting cost reduction and business efficiency</p> <p>Positive impact on student experience</p> <p>Ability to respond to changing market demands and customer expectations improving and securing revenue</p> <p>Ability to develop and exploit new value streams</p>	<p>Business process re-engineering to support digitalisation.</p> <p>Automation of administrative functions.</p> <p>24/7 customer support platforms with machine learning functionality, including AI conversational interfaces.</p>

Strategic Theme	Commitment	Benefits	Examples
<b>Data Analytics</b>	QMU IT will support decision making in the university through the development and implementation of effective reporting and analytics tools.	Evidence based decision making across all business processes.  Improved student and business outcomes	Product offering and delivery efficiency through data driven decision making.  Learning analytics to support student journey to maximise student outcomes.
<b>Cyber Security</b>	QMU IT will prioritise security activity across both its technology landscape and applications portfolio.  This will be achieved by utilising expert resource and adopting appropriate security measures and accreditations.	Protection of university data resources  Protection of university IP  Improved business resilience	Cyber Essentials Plus  ISO accreditation  Mobile Device Management  Biometric security
<b>Cloud First</b>	QMU IT recognises that there are significant opportunities for the university in leveraging cloud-based deployment solutions.  The full range of these opportunities will be explored, and a strategic plan prepared	Increased scalability to meet future demand  Reduced carbon emissions  Improved Business Continuity capability through use of dispersed digital resources	Deployment to Microsoft Azure  SaaS software models  PaaS delivery models



QMU 150 Strategy		Digital Strategic Themes	
	<ul style="list-style-type: none"> <li>(1) Excellent student experience</li> <li>(2) Highly visible and strongly promoted academic portfolio</li> <li>(3) A strong research culture</li> <li>(4) An increased international reach</li> <li>(5) Knowledge exchange &amp; commercialisation embracing entrepreneurialism</li> <li>(6) University without borders</li> <li>(7) Significant fundraising and development</li> <li>(8) A vibrant campus with attractive facilities</li> <li>(9) Motivated, confident, engaged and inspiring staff</li> </ul>	<ul style="list-style-type: none"> <li>(1) Student Experience</li> <li>(3) Data Analytics</li> <li>(5) Cloud First</li> </ul>	<ul style="list-style-type: none"> <li>(2) Digital Transformation</li> <li>(4) Cyber Security</li> </ul>
	<b>Pre 2015</b>	<b>2015 to 2018</b>	<b>2019 to 2023</b>
<b>Technology Platform</b>	Significant business risk due to technology instability following extended period of underinvestment	Business stability delivered through complete refresh of all aspects of technical platform	Continuing improvements to business scalability and flexibility through increasing use of cloud services
<b>Student Experience</b>	<p>Poor student experience and NSS results due to outdated technical platform and solutions</p> <p>Student experience not a priority in systems planning</p>	<p>Student experience enhanced through development of digital, personalised solutions and refresh of core applications and interfaces improving student recruitment and retention. Improving NSS results.</p> <p>Development of student centric portals and mobile apps</p>	<p>Continued increase in student experience levels and NSS results through implementation of industry leading classroom technology and learning space solutions</p> <p>Transformed student experience, both on campus and remote, through greater deployment of personalised, digital solutions</p>
<b>Data Security</b>	Data backup strategy based on tape increasing business risk	Implementation of offsite data replication process significantly improving business data security	Increased used of cloud based solutions reducing data loss risk
<b>Project Governance</b>	High risk of project failure and non delivery of benefits due to lack of effective governance	Corporate governance improved through the implementation of PMO and corporate governance model	Increased use of Business Analyst resource across the university and embedding of PMO processes to drive lean and agile processes
<b>Cyber Security</b>	Cyber security risk due to age of software and lack of patching process	Implementation of automated patching process. Delivery of Cyber Essentials accreditation	Improved business continuity through continuous security improvements
<b>Team Culture</b>	Inward looking team culture focussed on BAU	Development of customer centric culture within IT team	<p>Developing culture based on digital delivery and cloud based technologies</p> <p>Cultural shift from technology provider to strategic partner</p>
<b>Strategic Planning</b>	Lack of strategic or operational planning including failure to develop roadmaps	5 year strategic plan developed with associated delivery roadmaps	Ongoing maintenance of detailed delivery roadmaps, and operational and strategic planning
<b>Data Analytics</b>	No use of analytics to support decision making or planning	Implementation of first analytics tools for senior management	<p>Improved student outcomes and retention through effective use of learning analytics</p> <p>Informed business decisions through deployment of data analytics solutions.</p>



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