## Jisc



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#### This is an interactive pdf that contains aids to help you navigate:

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Is a hyperlink and will either take you to the website or to an associated destination in the report



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Is a button that will take you to the master element diagram (if it is greyed out it is not activated)

Word versions are available for download in this toolkit to enable organisations to select their own maturity levels and progress.

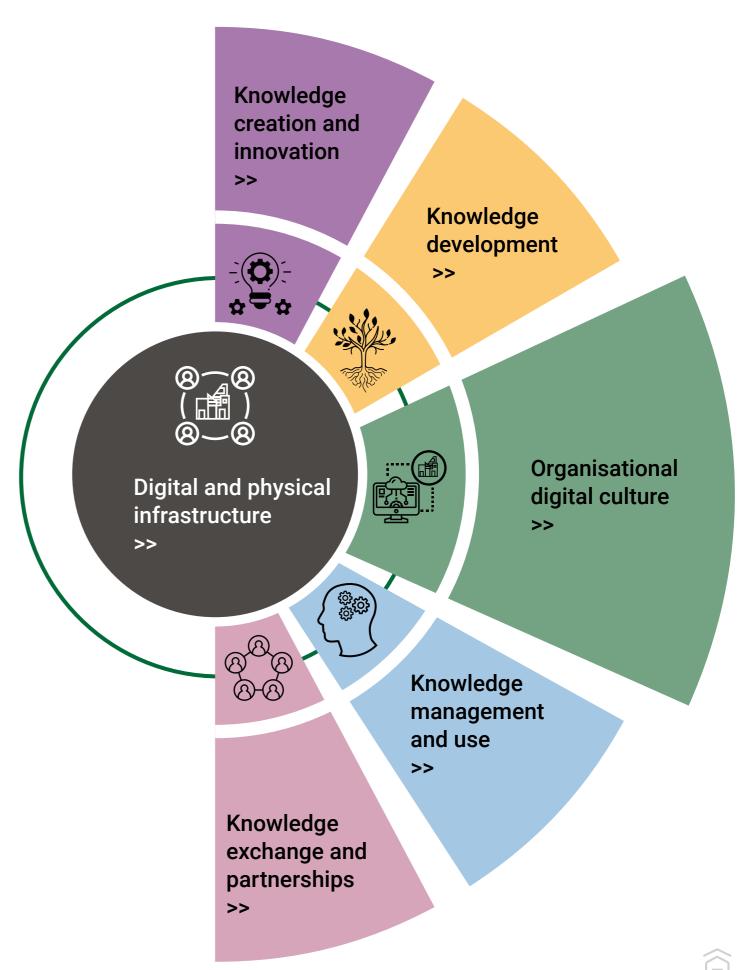
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## **Overview of the maturity model**

This maturity model for digital transformation provides a structure to help UK higher education (HE) providers assess their digital maturity across all aspects of business. The structure aligns with the Jisc framework for digital transformation, which aims to inform the development of strategic vision and planning, fostering innovation, streamlining business processes and operations and developing partnerships for collaboration. The framework highlights how policies and processes might align to promote cross-team approaches that reduce complexity and fragmented processes.

When identifying digital maturity across all areas of business HE providers need to benchmark themselves against the sector and set their own baseline from which to move forward. Defining digital maturity is an important step in producing a digital transformation strategy and creating actionable plans. Where organisations identify their maturity level (see page 6) as 'enhanced to mature' we would like to work with them to create good practice case studies for sharing across the sector.

This model is part of a toolkit to support digital transformation and it is supported by an action plan/roadmap template and an overview document. The model provides a common language for HE providers to discuss digital transformation and share best practices across their organisation and more widely with the sector.





6 | Maturity levels

## **Maturity levels**

The model consists of three levels of digital maturity that can be assessed against each aspect of activity identified in the framework. It provides a description of each level for all areas of the framework to show the benefits and outcomes of progressing through the levels. The description is also intended to help organisations identify their own levels. The three levels are:



## Reactive stage

## • Lack of strategic digital leadership **Emerging to established**

- · Short-term investment
- Unintegrated systems and operations
- · Lack of innovation
- · Lack of wide stakeholder understanding and engagement
- Dispersed project-based digital activities





## Proactive stage

#### **Established to enhanced**

- Developing a proactive strategic approach
- · Enabling effective digital leadership
- Making efforts to integrate systems and operations
- Engaging and upskilling all stakeholders
- · Moving towards a service delivery model





#### Integrated stage

#### **Enhanced to mature**

- · Comprehensive and integrated strategic approaches
- · Effective digital leadership
- · Long-term, adaptable planning and investment
- · Integrated and efficient systems and operations
- Engaged, informed and appropriately skilled stakeholders
- Partnership approaches to innovation
- Longer term delivery model approach (less project based)

## **Terminology**

We have used the word 'organisation' rather than 'university' to take account of the diversity of higher education providers.

For the sake of brevity, the term 'all stakeholders' includes governors, senior leaders, staff, students and partners such as alumni, business, industry etc. We have identified specific stakeholders as appropriate.

You may find some statements repeated (or slightly adjusted for each context as appropriate). This is deliberate as we anticipate that different people/teams across the organisation may focus on specific areas and would expect to see those statements in 'their area'.

Some aspects are important across all areas of HE provider business. These include key principles that might appear in mission or value statements such as equity, diversity and inclusion or environmental sustainability. Other aspects also need to be considered across all areas of

business and these include digital leadership and governance, strategic planning, appropriate investment, data analytics, digital culture and practice, technology requirements, staff development etc. These aspects are included across the model as appropriate to each section.

This maturity model includes keywords that are used in the framework document. This helps make connections between the two documents, as they are used as interactive links in the framework document index.

## **Key components of the maturity model**

The maturity model for digital transformation focuses on six core elements of HE provider business. Evaluating maturity levels across these key areas can identify areas of strength as well as areas for improvement.



#### **Organisational** digital culture

The values, beliefs and practices affected by the use of digital technology. Empowering digital culture and leadership (strategy, planning and investment), focusing on core strategies, administrative structures and processes, effective governance, stakeholder support, development and engagement. The organisation's digital culture also determines its approach to issues such as digital safety and wellbeing, openness, collaboration and equity, diversity and inclusion (EDI), as well as how effectively it implements and adapts to organisational change.



## Knowledge creation and innovation

Analysing emerging trends and developments across all areas of the organisation's business to inform policy and development. Enhancing knowledge creation and innovation through research and collaborative activities. Considering the wider impact on local, regional, national or international communities.



#### Knowledge development

Supporting knowledge development within the organisation to ensure all stakeholders can learn, work and thrive in a digital environment. Rethinking and enhancing digital learning, teaching and assessment.



Digital vision and horizon scanning



Curriculum development



Research







Wider impact



Digital teaching

**Digital learning** 



Learner experience



#### Knowledge management and use

Enhancing access to, and use of, information and data to support research and teaching. Enabling the collation, preservation, management, sharing and use of information and data to inform decision making.



#### Knowledge exchange and partnerships

Enhancing knowledge exchange to communicate and disseminate key organisational messages, encourage collaboration and community participation of all partners/stakeholders.



## © © Digital and physical infrastructure

Providing robust and secure infrastructure through relevant expertise and vision, including appropriate investment in networks, systems, hardware, software and digitally equipped physical spaces, and ensuring effective management and compliance with standards.



Information management and use



Data management and use



**Business intelligence** 



**Decision making** 



Communication



Collaboration



Community participation





infrastructure

Robust digital



Digital connectivity



Digital support



**Estates management** 



Organisational change

Organisational identity

Organisational wellbeing

Digital culture and

mindset



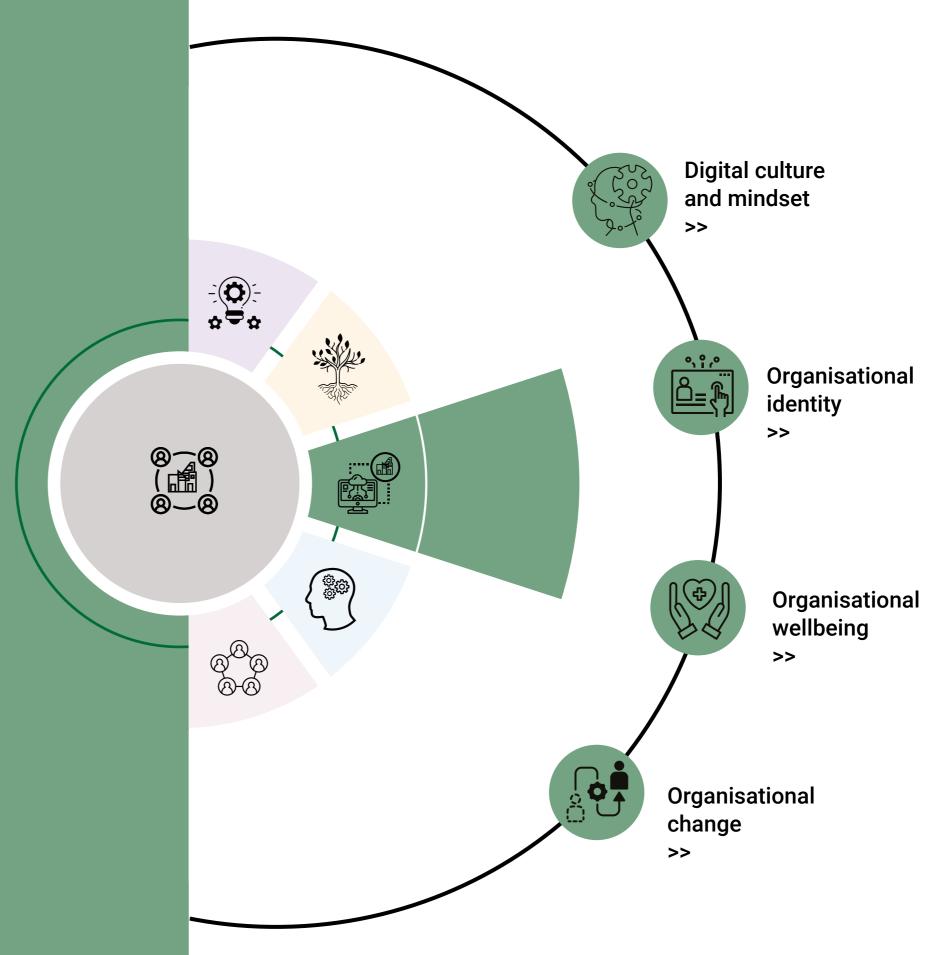
10 | Organisational digital culture Organisational digital culture



## **Organisational digital culture**

The values, beliefs and practices affected by the use of digital technology. Empowering digital culture and leadership (strategy, planning and investment), focusing on core strategies, administrative structures and processes, effective governance, stakeholder support, development and engagement.

The organisation's digital culture also determines its approach to issues such as digital safety and wellbeing, openness, collaboration and equity, diversity and inclusion, and how well it implements and adapts to organisational change.









## Digital culture and mindset

Includes the attitudes, behaviours, beliefs and practices that shape people's relationships with digital technologies and the ways these transform organisational activities. It includes how stakeholders approach innovation, collaboration, information-sharing and the creation and consumption of digital content and how these can enhance their work and learning.

## 1 Develop and model an internal digital culture that is congruent with the organisation's mission and values

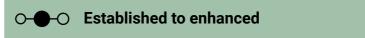
#### **Key framework areas:**

Digital strategy | Corporate strategy | Organisational values

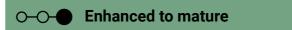
#### Select maturity level:



- Integration and adoption of digital technologies, tools and practices within the institution have been done in a piecemeal way. Some departments have developed strategic approaches to investing, developing and incorporating digital into their core business functions.
- Stakeholders do not have a shared understanding of the benefits of a strategic approach to digital transformation.
- There are plans to involve all stakeholders in developing a digital strategy or strategies that align with the organisation's vision and values.



- Significant progress has been made towards developing a unified digital culture. A digital strategy articulates a shared understanding of how digital developments support broad organisational principles, vision and values.
- Stakeholders have been involved in developing the strategy and the shared digital vision is being contextualised by different parts of the organisation.
- Digital is embedded in all core strategies, with delivery overseen by a cross-institutional stakeholder group.



- The organisation has fully integrated a digital culture into its mission and values, and digital technologies are integral to all aspects of the organisation's operations.
- The organisation is acknowledged as a leader in digital innovation and is actively shaping the future of education and research through its use of digital technologies. An agile, servicebased model underpins all digital developments (rather than dispersed project-based activities).
- There is a strong culture of collaboration, innovation and knowledge sharing, both within the organisation and with external partners.





#### 2 Embrace sustainable behaviours and mindsets

#### **Key framework areas:**

Environmental sustainability | Organisational values

#### Select maturity level:



- Stakeholders are encouraged to embrace sustainable behaviours and mindsets when using digital technologies.
- Practices that minimise the carbon footprint and ecological impact of digital activities are promoted (eg using energy-efficient devices, reducing unnecessary printing and adopting responsible data management practices).
- Creation and consumption of digital content that raises awareness of sustainability challenges and promotes environmentally friendly actions is encouraged across the organisation, particularly within internal and external communications.

## ○— Established to enhanced

- Sustainability is embedded as part of organisational culture. Sustainable digital practices are
  integrated into the organisation's values, policies and procedures. Cross-functional teams or
  working groups are established, focusing on sustainable digital practices.
- Positive ownership and accountability are fostered by encouraging stakeholders to share success stories, lessons learned and innovative ideas related to digital sustainability.

## **○**—**○** Enhanced to mature

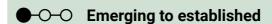
- The organisation leads by example and influences industry-wide change by not only implementing innovative solutions but also actively participating in collaborations that focus on driving digital sustainability.
- A culture of continuous learning and innovation is cultivated by allocating resources for research and development in sustainable digital solutions.
- Sustainability skills, experiences and knowledge are shared both internally and externally
  through engaging in thought leadership activities, such as publishing articles and participating
  in conferences to inspire others and drive positive change.

## 3 Effective digital leadership

#### **Key framework areas:**

Digital leadership | Governance

#### Select maturity level:



- There is a growing awareness of the importance of digital leadership but there are few (or no) formal training or development opportunities for senior leaders to build digital leadership skills and experience. Some senior leaders do not have the confidence or capability to contribute towards a digital strategy for digital transformation. Ad hoc efforts to implement digital initiatives tend to lack cohesion.
- Senior leaders may not be held accountable for digital performance, and there is little emphasis on modelling good practice.
- Digital innovators or digital leaders/champions have senior level sponsorship even if not all senior managers feel confident to lead by example.

## ○- Carablished to enhanced

- The importance of digital leadership is recognised, and steps are being taken to support senior leaders in this area. There are some formal training and development opportunities for senior leaders around digital leadership, and they are increasingly able to contribute to a strategic vision for digital transformation.
- Senior leaders are expected to model good practice and may be held accountable for digital performance. There is an effort to coordinate digital initiatives across the organisation and to encourage innovation.

- Effective digital leadership is recognised and rewarded. Comprehensive training and development opportunities exist for senior leaders and governors to enhance their digital practice.
- Senior leaders are held accountable for digital performance and are expected to model good practice throughout the organisation.
- There is a culture of continuous learning and improvement. Digital innovation and collaboration are encouraged through opportunities for all staff to develop digital leadership skills.



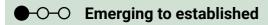


## 4 Ensure the digital culture of the organisation supports equity, diversity and inclusion (EDI)

#### **Key framework areas:**

Accessibility and inclusion | Organisational values

#### Select maturity level:



- The importance of digital equity, diversity and inclusion is recognised in strategy documents.
   There is a limited awareness of the needs of diverse stakeholders but no clear plan for addressing them at an organisational level.
- Staff and services respond reactively to individuals' expressed needs.
- Data is gathered on digital access and use by students and staff, but there is no strategic approach to addressing any gaps.
- The organisation is working to ensure that digital processes, systems and services do not create barriers to participation, learning or working.
- Information about relevant regulations and legislation is available on the organisation's website (eg Equality Act 2010, accessibility regulations). Web browser-delivered content meets internationally recognised accessibility standards as required by the accessibility regulations. The organisation has published an up-to-date accessibility statement that meets the requirements of the accessibility regulations.

## 

- Significant progress has been made in promoting the values of digital equity, diversity and inclusion.
- There is an ongoing dialogue with stakeholders to evaluate and improve strategies that address digital disparities (eg around individual needs or capabilities, access to resources, networks and equipment).
- Accessibility and inclusion principles are introduced in staff and student inductions and guidelines are available to support inclusive behaviour in digital environments.
- Learners and/or staff are encouraged during induction to identify the barriers and challenges around their experience of learning/working.

- There is a comprehensive and integrated strategy around supporting digital equity, diversity
  and inclusion, which is evident across all business operations and services. The organisation
  is actively working to dismantle structural barriers and create an inclusive and equitable digital
  environment for all students and staff.
- The organisation has created a culture of inclusion that is reflected in its policies, programmes and practices. Stakeholders have a shared vision and understanding of how to ensure that their everyday practice champions and encourages inclusion.
- There is widespread understanding and knowledge around all aspects of accessibility, not just
  a focus on technology, content or regulations (eg pedagogically accessible teaching and
  assessment, flexible physical and digital spaces, flexible working arrangements, language use,
  social and communication aspects).





## 5. Digital capability of all stakeholders

#### **Key framework areas:**

Digital leadership | Digital fluency | Digital capability

#### Select maturity level:

### ● O Emerging to established

- The importance of digital capabilities for all stakeholders is recognised but this is not yet embedded in learning, teaching and assessment or in recruitment, development and review processes for staff.
- Some resources are available to support digital capability development but there is a lack of awareness of what digital capabilities are required by all faculty, staff and students.
- · Digital capability is seen as the responsibility of one or two departments.
- Work has begun to identify the digital capabilities needed for specific roles or functions and some standard digital capabilities are included in job descriptions and person specifications.

## ○- Established to enhanced

- A strategic digital capability plan has been developed for all staff and students. The organisation
  is actively working to integrate digital capabilities into its operations and culture, which informs
  staff recruitment, induction, training and development and is beginning to inform curriculum
  development.
- The organisation provides a variety of internal training and development programmes and offers signposting to formal certification programmes that allow staff and students to demonstrate their digital capability.
- Staff and students are given opportunities, support and encouragement to self-assess their digital capabilities and confidence levels. Digital capabilities form part of staff appraisal and tailored staff development is on offer.
- Sector role profiles and/or professional frameworks are used to define digital capabilities for many roles and levels and a framework or roadmap has been developed to build digital capabilities across the organisation.

- The organisation has created a culture of digital capability that is woven throughout its
  operations and policies. Digital capabilities are embedded in recruitment and selection,
  induction, appraisal and reward procedures for all staff.
- Digital capabilities are embedded in all courses as appropriate for professional and career requirements.
- The organisation is recognised as a leader in digital capability development and is known for its innovative programmes and initiatives. It may be partnering with other institutions or industry partners to drive digital capability development across the sector.
- There are regular reviews of digital capability requirements against all existing and new roles and training and development programmes are adapted accordingly.
- People with highly specialised roles and digital skills are recruited on a temporary or permanent basis, as appropriate.





## 6 Establish and support a culture of innovation and experimentation

#### **Key framework areas:**

Digital innovation | Digital leadership | Business continuity planning

#### Select maturity level:

## ●─── Emerging to established

- Isolated pockets of innovation exist across the organisation, but there are no formal structures or processes in place to support and encourage this.
- Senior leaders may not be actively engaged in promoting a culture of innovation, and there
  may be little emphasis on experimentation or risk-taking. Traditional methods and processes
  are preferred for decision making and problem solving. Isolated project-based activities take
  place across the organisation.

### ○---- Established to enhanced

- The importance of establishing and nurturing a culture of innovation and experimentation is recognised. There are some formal structures in place to support innovation, such as innovation labs or incubators, and senior leaders have actively started to promote a culture of experimentation.
- The organisation has plans to invest in new technologies or processes to support innovation, and is committed to encouraging cross-functional collaboration and sharing of ideas. There is still some resistance to change and a lack of formalised processes for experimentation.

- A culture of innovation and experimentation is evident across the organisation. There are formal structures and processes in place to support innovation, and senior leaders are actively engaged in promoting and modelling a culture of experimentation.
- Risk-taking is encouraged and failure is acknowledged as an opportunity for learning and growth.
   There is a focus on continuous improvement and the appropriate adoption of new technologies and processes. The organisation actively invests in and supports research and development, and there is a strong culture of cross-functional collaboration and idea sharing.
- A 'digital by design' approach for developing new systems, operations or services seeks to redress any bias towards conventional channels and behaviour (not necessarily replacing traditional non-digital approaches if they are appropriate).





22 | Organisational identity Organisational identity | 23



## **Organisational identity**

The unique characteristics and qualities that define an organisation and distinguish it from others. Includes digital activities that support the promotion of strategic principles and values and how these inform business practices and impact on stakeholders.

## 7 Develop and promote an external digital identity that reflects the organisation's mission and values

#### **Key framework areas:**

Marketing and communications | Building digital communities | International activities

#### Select maturity level:



#### ● ○ Emerging to established

- · The organisation's mission and values are evident on the corporate website and in its social media presence. Branding guidelines exist for all communications and publications.
- · Basic analytics tools are used to measure the performance of digital channels. Official digital channels comply with accessibility guidelines, but some externally and internally facing content does not fit the branding or accessibility requirements.



#### 

- · A strong and distinctive digital identity is evident on all digital channels. The organisation has a well-designed and user-friendly website and active social media channels, and all staff and students are encouraged to maintain and support a consistent and accessible organisational identity.
- · Advanced analytics tools are used to measure the performance of digital channels, and data is used to inform digital marketing and communication strategies.

- The organisation is using its digital identity as a key driver for growth and success, both to attract and recruit the best staff and students and to build an international reputation.
- Innovative and effective digital marketing strategies ensure a consistent digital identity across all channels, and the organisation is harnessing advanced technologies to engage with its audiences and build digital communities (eg alumni networks, research groups, industry and
- · Data analytics and machine learning are in use to personalise digital experiences for different audiences, and virtual and augmented reality are used to enhance users' experience of some content (eg campus tours).





## 8 Staff and student digital identities

#### **Key framework areas:**

Digital capability | Digital fluency

#### Select maturity level:

## ● ○ Emerging to established

- There is limited formal support or resources for senior leaders, staff and students to develop their digital identities in a positive way.
- Training and professional development opportunities around digital skills include digital identity awareness, and staff and students are offered generic support and guidance on staying safe online.

## ○---- Established to enhanced

- The organisation offers staff and students contextualised support and guidance in managing their digital identity and online behaviour. Policies or guidelines have been produced to support the development of a positive individual digital identity or identities.
- The use of digital tools and technologies to enhance the development of positive digital identity is encouraged.

- Digital identity and online behaviour are part of personal development planning for all staff and students and built into processes for managing these. Staff continually develop their professional digital identities.
- Students actively develop professional digital identities throughout their course.
- Students and staff co-create guidelines and protocols for acceptable digital behaviour in various contexts.





**26 |** Organisational wellbeing Organisational wellbeing



## **Organisational wellbeing**

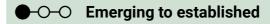
Building, supporting and maintaining the physical, emotional, and mental health and wellbeing of all stakeholders. Includes the impact of living, working and learning with digital technologies, as well as adopting digital approaches to improve and manage the wellbeing of individuals.

## 9 A strategic approach to digital wellbeing

#### **Key framework areas:**

Digital wellbeing | Flexible workplace | Cyber security |
Staff recruitment and retention | Environmental sustainability | Digital fluency |
Accessibility and inclusion | Economic/Financial literacy

#### Select maturity level:



 Wellbeing policies and support focus on mental health and do not specifically understand or address the concept of digital wellbeing. Responsibility for staff wellbeing sits with the human resources team. Responsibility for student wellbeing sits with the student support team.
 Organisational health and safety policies focus on ergonomic aspects of digital wellbeing.



- Aspects of digital wellbeing are well articulated and understood in organisational policies and guidelines. There is appropriate support for staff and students to ensure that using digital technologies for work and learning does not impact negatively on physical or mental health.
- Digital skills and capabilities for all stakeholders opportunities include awareness of ways to enhance digital wellbeing.

- Digital wellbeing is the responsibility of everyone in the organisation and formal support is
  integrated into organisational strategies, operations and culture. All inductions include digital
  wellbeing and all stakeholders have an opportunity to self-assess the impact of digital on their
  physical, emotional and mental health.
- The organisation offers support to mitigate negative impacts and invests to help people make
  the best use of technology to enhance wellbeing (including training, advice and guidance,
  using assistive technologies).
- Digital wellbeing is embedded into curriculum design as appropriate for different contexts.
- Data analytics and nudges are used appropriately to identify problems and highlight solutions.





28 | Organisational wellbeing Organisational wellbeing

# 10 Adopt flexible approaches to work and study to accommodate the different needs and preferences of all stakeholders

#### **Key framework areas:**

Digital wellbeing | Flexible workplace | Staff recruitment and retention | Accessibility and inclusion

#### Select maturity level:

### ● O Emerging to established

- Flexible work and study arrangements are implemented on a case-by-case basis, without a coordinated organisational strategy or vision.
- Basic policies support flexible work and study, such as occasional remote working or adjustments for personal circumstances.
- The organisation has some infrastructure to support flexible work and study, including access to computers, learning spaces, internet connectivity and essential software for remote access.

### ○- Catablished to enhanced

- There is a strategic commitment to promoting healthy work-life balance and wellbeing.
   Ongoing support is provided to help staff and students navigate flexible work and study options, including training, resources and dedicated personnel to provide assistance.
- There are comprehensive policies and support systems in place around flexible work and study spaces. Approaches include part-time work, job sharing, flexible hours and blended learning options.
- Physical and digital infrastructure supports flexible work and study through improved IT systems, remote access solutions, different types of study spaces and collaboration tools.

- Adaptable flexible work and study strategies champion continuous innovation and improvement
  to promote a healthy work-life balance and wellbeing for all members of the organisation. Staff,
  faculty and students are not only proficient in navigating flexible work and study options but they
  also actively contribute to the development and improvement of flexible policies, tools and practices.
- Flexible work and study are core components of organisational culture and values, and there are
  a wide range of options to accommodate diverse needs and preferences. Comprehensive policies
  support a diverse array of flexible work and study options, tailored to the unique needs of staff,
  faculty and students.
- The infrastructure offers seamless integration of flexible work and study spaces, tools and platforms across all aspects of the organisation.





30 | Organisational change



## **Organisational change**

Anticipating, managing and responding to the impact of digital transformation activities. Supporting stakeholders to adapt practices, expectations and attitudes through planned initiatives and activities.

## 11 Leading and enabling digital transformation

#### **Key framework areas:**

Digital strategy | Digital leadership | Operational change | Governance | Corporate strategy

#### Select maturity level:



- Senior leaders and governors understand the potentially transformative nature of digital and have identified digital leaders or champions to lead on strategy development.
- Work to produce a unified digital transformation strategy has begun. The organisation has
  carried out some benchmarking activities and analysis. A baseline is being established that
  identifies maturity levels across all areas of business and targets for future development.
- Some key business operations and systems have been prioritised for investment as having the biggest impact on digital transformation.
- · Senior leaders are being supported to develop digital leadership skills.

## 

- A digital transformation strategy has been developed (or all strategies have been aligned to incorporate digital transformation). All stakeholders have been involved in developing the strategy and have a shared understanding of aims and ambitions.
- Senior leaders and governors have agreed an investment plan for short-, medium- and longterm resource commitments.
- An organisational development plan identifies achievable targets, key performance indicators, priorities and responsible owners, and is being used to inform individual department plans.







- The organisation is implementing its digital transformation strategy and development plan. Cross-department groups have been established to ensure a holistic approach to digital transformation and encourage collaboration and shared ownership.
- Digital transformation is evident in the short-term achievements, as digital technologies have been integrated into all aspects of operations and decision-making processes. The strategy and plan/s are continuously reviewed and evolving to stay ahead of the latest digital trends and best practices.
- The organisation is at the forefront of digital innovation in higher education. A culture of continuous learning and development around digital technologies is evident, and leaders are actively engaged in mentoring and coaching the next generation of digital leaders.
- Creative responses to digital change have been implemented. They include rewarding innovation, developing a risk-accepting culture, supporting staff and modelling innovative approaches.



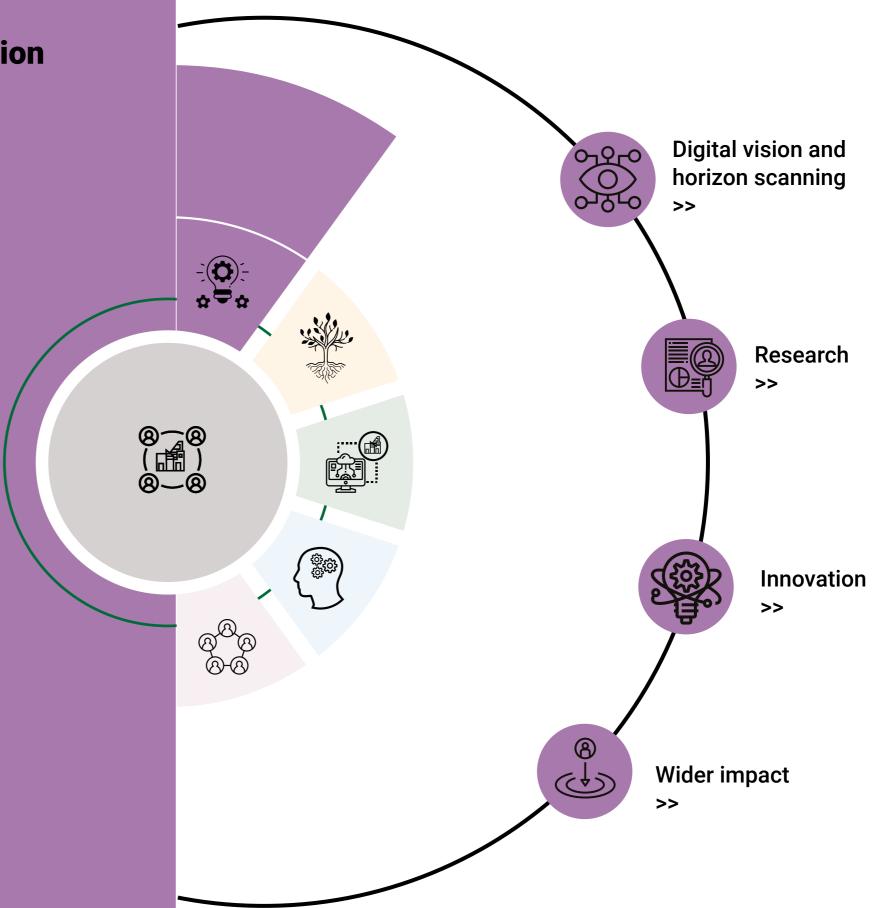


**34** | Knowledge creation and innovation Knowledge creation and innovation | 35



## **Knowledge creation and innovation**

Analysing emerging trends and developments across all areas of the organisation's business to inform policy and development. Enhancing knowledge creation and innovation through research, and collaborative activities. Considering the wider impact on local, regional, national or international communities







36 | Digital vision and horizon scanning



## Digital vision and horizon scanning

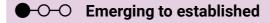
Looking ahead to anticipate and prepare for the impact of current and future digital trends on the sector and on organisational priorities and activities. Enabling senior leaders to gather foresight to inform strategic planning and decision making.

## 12 Horizon scanning to inform decision making

#### **Key framework areas:**

Horizon scanning | Digital vision | Benchmarking | Foresight | Digital leadership | Digital creativity | Futures thinking | Sector trends | Industry trends | International activities

#### Select maturity level:



- Benchmarking activities are conducted by specialists and analysts and results are primarily observed by individual enthusiasts in the organisation. The value of benchmarking to inform strategic planning is recognised, but not formalised.
- Trends are responded to as they emerge with limited proactive efforts to identify and anticipate future developments.
- News and developments in higher education, technology and relevant industries are monitored primarily through traditional media channels and ad hoc conversations.
- Staff occasionally share and discuss trends within their departments or areas of expertise, but there is no formalised process for cross-departmental collaboration.
- Staff attend conferences or workshops to gain insights into emerging trends, but these activities are sporadic and not part of a strategic approach.

### ○---- Established to enhanced

- Individual managers champion the use of benchmarking and may encourage its application within their departments to inform new initiatives.
- The organisation makes concerted efforts to monitor and analyse trends proactively, using a structured approach to inform strategic planning and decision making.
- Diverse information sources are monitored (including academic journals, industry reports, social media and expert networks) to identify emerging trends
- Staff from different departments and disciplines regularly collaborate to share insights, perspectives and expertise related to trend identification and analysis.
- Staff regularly participate in or lead horizon scanning workshops, foresight exercises or scenario planning sessions to explore potential future developments.





38 | Digital vision and horizon scanning Digital vision and horizon scanning

### **○**—**○**— Enhanced to mature

 Senior management teams are advocates of benchmarking and review outcomes of benchmarking when setting strategic organisational objectives and plans. Benchmarking analyses inform decision making.

- They proactively identify and analyse trends as well as actively shaping and influencing future developments in the field.
- Internal expertise and external networks are leveraged to identify and analyse trends, combining data-driven insights with human intuition and judgement.
- Partnerships with other institutions, industry leaders and policymakers enable co-creation of innovative solutions and influence the direction of higher education and related fields.
- The organisation contributes to public discourse and policy debates, publishing research, white papers and opinion pieces that shape the understanding and interpretation of emerging trends.

## 13 Establish a 'futures-thinking' mindset for senior leaders and governors

#### **Key framework areas:**

Strategic planning

#### Select maturity level:



• Strategic planning is largely reactive, with a focus on adapting to changes as they occur rather than proactively shaping the future.

## ○- Carablished to enhanced

• Strategic planning incorporates trend analysis and foresight activities, with an emphasis on anticipating and preparing for future challenges and opportunities.

### O-O- Enhanced to mature

• Strategic planning goes beyond merely responding to trends, focusing on actively shaping the future through innovation, collaboration and leadership in higher education.







## Research

Providing a robust infrastructure to support research. Includes strategic approaches, appropriate investment in digital systems, environments, processes and technologies, and attracting, enabling, developing and supporting researchers.

## 14 Strategy for digital transformation in research

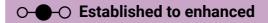
#### **Key framework areas:**

Digital strategy | Open research

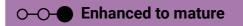
#### Select maturity level:



 The organisation has plans to develop a strategy for digital transformation in research and to adapt and enhance policies for digital research infrastructure, research asset management, open research/publishing, knowledge exchange, collaboration with partners and research data management.



- A strategy for digital transformation in research has been developed (or incorporated into the research strategy) and aligned with several relevant organisational strategies (eg library and information, digital preservation, collections management, digital transformation, IT, estates, data strategy etc).
- An understanding is emerging around the 'ownership of the research lifecycle' and how the
  organisation can work with vendors and external partners to maintain ownership as appropriate.



• Stakeholders have a shared understanding of the benefits of digital transformation to research with a commitment to ensure that digital approaches and methods align with core organisational values (eg equity and inclusion, environmental sustainability, ethical practice, internationalisation).





## 15 Investment in digital research systems and environments for research

#### **Key framework areas:**

Digital strategy | Library and learning resources

#### Select maturity level:



- Digital preservation and retention strategy and policies are being developed to support effective organisation and preservation of research outputs.
- Funding to support pilot projects in digital preservation is in place. A stakeholder analysis has been carried out alongside a digital/data asset survey, which has identified the extent of assets, how they are used and how they should be managed.
- Staff are supported around changing practice and appropriate training is offered.
- Digital research data management activities are incorporated into organisational policies and practices for data storage, security, backup, supply chain management and sharing.

## ○--- Established to enhanced

- The digital preservation and retention strategy and policies are established and inform investment and planning. An ongoing, recurrent budget reflects long-term resourcing needs.
- Basic systems and workflows for preservation and retention are in place. Basic internally facing integrations are established.
- A comprehensive digital research data management approach has been adopted, focusing on best practices, open data principles and data accessibility.

## ○—○— Enhanced to mature

- The digital preservation and retention strategy and policies are regularly reviewed and updated to reflect changing needs and priorities.
- Integrated systems are in place and integrated workflows (internally and externally facing) are well established and operational.
- Robust research asset management systems facilitate secure preservation, sharing and access, while adhering to best practices and relevant policies or regulations.
- A comprehensive digital research data management system supports research, with a focus on open data principles and data accessibility.



## 16 Investment in digital and physical infrastructure for research

#### **Key framework areas:**

Digital strategy | Robust digital infrastructure | Investment

#### Select maturity level:



- The digital infrastructure for research includes access to secure, reliable technology, tools, connectivity, networks, services, information, collections and data.
- Researchers have access to specialised software, tools and physical spaces as appropriate to their discipline/s (eg statistical analysis software, data visualisation tools, labs, simulation and modelling tools and software).

## O- C Established to enhanced

- An upgraded and integrated digital infrastructure for research includes advanced technologies
  and services such as high-performance computing to handle complex, large-scale or
  computationally intensive tasks. Investment in cloud-based services enables researchers to
  access and use computing resources on demand, scaling their use according to their specific
  requirements.
- An extensive selection of applications or tools tailored to the specific needs of various research disciplines or tasks is available.

- The digital infrastructure for research is tailored to the needs of the research community. A
  suite of technology resources, services and support systems has been designed and
  implemented to directly address the specific requirements and goals of researchers across
  various disciplines.
- Researchers have access to the most appropriate and effective tools, enabling them to work more efficiently and productively.
- Regular assessments of research activities inform strategic planning to support future data processing needs, software preferences and collaboration requirements.
- A range of tools, services, hardware and software accommodates diverse computational needs and workloads, and they cater to the unique needs of each research field.



## 17 Opportunities for international research collaboration

#### **Key framework areas:**

International activities | Research collaboration | Building digital communities

#### Select maturity level:



- Interdisciplinary and international collaborations depend on traditional approaches within faculties.
- Open research and publishing practices are emerging, with some support for researchers in pursuing these approaches

## ○- C Established to enhanced

- Digital approaches enhance knowledge exchange activities and interdisciplinary collaboration opportunities, resulting in partnerships with a larger network of international institutions.
- Increased adoption of open research and publishing practices, with more support for researchers in pursuing these approaches.

## ○—○— Enhanced to mature

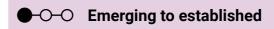
- Digital knowledge exchange activities foster interdisciplinary collaboration and innovation.
   Extensive collaboration with external partners includes a strong network of international institutions
- Strategic investment is identified for technologies and systems to support international research and work with partners to develop compatible international policy, regulation and infrastructure.
- There is commitment to conduct and coordinate due diligence on research partnerships, maintain central oversight and management according to institutional, funder and government policies.
- A strong commitment to open research and publishing ensures ample support for researchers to make their work accessible and reusable.

## 18 Ensuring ethical and responsible, transparent and secure research

#### Key framework areas:

Ethics | Organisational values

#### Select maturity level:



• The potential for digital approaches to developing trusted research practices is being explored, with attention to research integrity and ethics.



 Strengthened, trusted research practices have been adopted, enhancing research integrity and adherence to ethical guidelines.

## O-O- Enhanced to mature

 An emphasis on trusted research practices ensures widespread recognition of organisational research integrity and adherence to ethical guidelines. All research is ethical and responsible, has integrity and is trustworthy, reproducible, transparent and open. It is conducted in secure settings.





## 19 Supportive, enabling environment for the development of researchers

#### **Key framework areas:**

Accessibility and inclusion | Organisational values

#### Select maturity level:



 A digitally enhanced research culture is evident, with researchers becoming more confident and proficient with digital tools and techniques. The library offers services, collections, resources and support for digital research.



 A digitally enhanced research culture exists, with expanded training and support services for researchers. The library offers services and resources that support innovative research practices, such as data management, data visualisation and text mining.

## **○**—**○**— **Enhanced to mature**

A thriving digitally enhanced research culture exists, with researchers embracing digital tools
and techniques and the institution offering extensive training and support services (eg data
specialists, library and information specialists, IT system, research support teams). Equity,
diversity and inclusion (EDI) is embedded into all research practices.

#### 20 Recruitment and retention of researchers

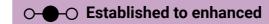
#### **Key framework areas:**

Research skills development and training

#### Select maturity level:



- The organisation recognises the importance of researchers having digital confidence and capabilities.
- Some recruitment and retention procedures to attract and retain highly skilled researchers with digital skills may be hampered due to lack of resources and temporary, short-term contracts. Regular training is offered to researchers on using digital tools effectively for research.



 The organisation acknowledges the importance of recruiting and retaining digitally confident and capable researchers. A suite of valuable benefits and conditions attract and retain staff, such as flexible working, competitive salaries, long-term contracts etc. Digital skills and expertise for research are valued across the organisation.

- The organisation recognises the value that researchers with digital skills can offer to digital transformation and takes a strategic and innovative approach to recruitment, retention and development to attract and retain the best quality staff.
- Senior researchers are actively involved in developing organisational strategies and policies and influencing innovation in research.
- Digitally confident, experienced researchers contribute expertise to professional groups and research communities (such as Academy of Social Sciences, The British Academy, Royal Society, Vitae).





## 21 Development and training of researchers

#### **Key framework areas:**

Research skills development and training | Digital capability

#### Select maturity level:



• The organisation is investing in training and development opportunities to help researchers acquire new skills and stay up to date with the latest trends and technologies. There is a lack of understanding of existing levels of digital confidence and capabilities across research teams and no opportunities for cross-faculty sharing of expertise or experience.



 There is significant investment in training to support researcher development and digital skills updating. Opportunities are offered for advanced certification as appropriate to specialisms and disciplines.

## ○─○ Enhanced to mature

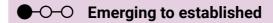
- The organisation is investing consistently in the development and wellbeing of researchers and
  has created a culture that supports professional growth and advancement. Research teams
  work closely with other appropriate teams to integrate digital systems, services and networks
  into research practice.
- Staff share their digital research expertise and experiences outside the organisation through research, academic papers, professional networks and events. Open practices are encouraged, recognised and rewarded.

## 22 Specialist support to researchers

#### **Key framework areas:**

Research support | Research management and support | Library and learning resources

#### Select maturity level:



- Multiple teams support research activities. Communication and collaboration between teams is limited, and data quality and management are sometimes compromised through fragmented systems.
- Digital confidence and capabilities vary across different teams and there is no coherent approach to developing digital capabilities for research support.
- Research support technologies, tools and networks are incorporated in the organisational IT strategy. Academic literature, databases and other research resources are provided through the library.
- Specialist research support teams (eg grants and funding, contracts, compliance, ethics) use specialist tools to support their job roles.
- Other central offices integrate research support into their services (eg international office, legal, communications, etc).

## ○---- Established to enhanced

- Strategic investment and expansion to the digital infrastructure improves integration of research support systems, tools and data.
- Digital skills for research support teams are included in organisational digital capabilities plans and a review of capabilities across teams identifies gaps and strengths.
- Coordination across research support teams is enhanced through digital communication and collaboration tools.





- A comprehensive research support ecosystem is underpinned by a robust, reliable, secure digital
  infrastructure, highly available and connected networks, high quality data and asset management
  systems, and well-coordinated and collaborative research support teams.
- Library (and archives) services are fully embedded in support of digital scholarship as an enabler and active partner in digital scholarship and research when relevant.
- Library (and archives) services play an active role in developing and signposting digital research skills and providing content and data in formats that support digital scholarship.
- The library is a member of Research Libraries UK (RLUK) and contributes to initiatives that shape the research library agenda.





52 | Innovation



## **Innovation**

Supporting the development of new ideas and solutions by encouraging creativity, enterprise and supporting digital leadership. Aligning appropriate innovation with strategic aspirations, existing practice, legacy systems and processes.

## 23 Promoting and enabling appropriate innovation

#### **Key framework areas:**

Innovation strategy | Digital creativity | Digital leadership

#### Select maturity level:



- Some formal processes for identifying and implementing digital solutions have been established for business management, education and research. Innovation often occurs through individuals or individual departments.
- Senior leaders may not have the appropriate skills and expertise to lead on digital innovation.



- The organisation is actively working to enhance and coordinate its digital innovation capabilities across education, management and research. Leaders are encouraged to lead and model innovative approaches.
- · Senior leaders and governors are offered support and training around digital innovation.

- The organisation has a strategic and coordinated approach to digital innovation across education, management and research activities that takes account of discipline needs and highlights the potential for innovation partnerships within and across disciplines. All stakeholders have opportunities to input and participate.
- Organisational leaders are recognised across the sector for developing and implementing innovative digital solutions to improve student outcomes, enhance management processes and drive ground-breaking research.





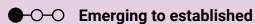
54 | Innovation | 55

## 24 Enabling innovative practice

#### **Key framework areas:**

Digital creativity

#### Select maturity level:



Creative and innovative staff are sometimes unable to introduce or develop new ideas due to
embedded policies, practices or restrictions. Staff do not have time or space to reflect on
existing practices and consider new approaches. Students lack opportunities to input ideas or
engage with decision making that affects them.



 The organisation values and encourages creative input from staff and students through enterprise opportunities and engagement with wider partnerships. It seeks to recruit creative digital practitioners in professional roles. Students are given opportunities to give feedback on how digital developments affect them.

## **○**—**○**— **Enhanced to mature**

A culture of enterprise is encouraged and supported. A ring-fenced innovation budget has been
established to support initial development of ideas and students are given opportunities to be
involved as partners. A coordinated and strategic approach to applying for external innovation
grants and opportunities is in place. Staff are encouraged and supported to take calculated
risks and experiment with technologies.

## 25 Innovative approaches to creating and using digital systems, tools and services

#### Key framework areas:

Digital strategy | Innovation strategy | Digital creativity | Digital leadership

#### Select maturity level:



- Digital technologies are used across the organisation in response to key areas of need, such as a learning management system or a digital research database. The organisation is using data analytics and other digital tools to improve decision making and efficiency.
- Previous IT initiatives and projects have resulted in pockets of innovation and the creation of individual in-house solutions and systems.

## ○---- Established to enhanced

- The organisation is using advanced technologies, such as artificial intelligence or virtual reality, to improve teaching and learning outcomes, optimise management processes and drive innovation in research. It is leveraging digital platforms, such as social media or online collaboration tools, to connect with stakeholders and foster a culture of innovation.
- Strategic decisions are made to balance investment in new approaches with maintenance and support of legacy systems that still offer value.

- The organisation is using innovative technologies, such as blockchain or quantum computing, to solve complex problems and drive innovation (eg issuing and verifying digital certificates and diplomas, data sharing, quantum computing research). It has considered the benefits of establishing a digital innovation lab or incubator to foster collaboration and drive innovation across the organisation.
- Efforts have been made to integrate legacy systems with newer systems and services to create a seamless technical infrastructure that can cope with potential future developments.





56 | Wider impact Wider impact | 57



## **Wider impact**

Ensuring the impact of research and innovation projects are analysed and appropriately disseminated to different audiences.

## 26 Impact of organisational research, enterprise and innovation on local, regional, national and international communities

#### Key framework areas:

Marketing and communications | External relations | Local/regional/national/impact | Building digital communities | International activities

#### Select maturity level:



#### 

- · The organisation is beginning to explore the wider impact of its research, enterprise and innovation activities. It complies with regulatory requirements for research around statistical returns but does not have any established formal processes for evaluating impact. Anecdotal evidence or informal feedback from stakeholders feeds into intelligence around impact. The organisation is investigating the use of data analysis tools to identify trends and insights related to impact.
- · Researchers behave safely and ethically when managing research data and outputs; also when engaging in digital research communities and with the wider public.

## ○ Established to enhanced

- The organisation is working to enhance its capacity for evaluating the impact of its research, enterprise and innovation activities and has established formal processes and a strategic approach. It uses advanced data analytics and visualisation tools to identify patterns and relationships between different types of impact.
- Use of digital tools and communications supports the creation of scholarly communities that support research-led teaching, promote good academic practice and engage a wider public in conversations about the impact of research on the environment, society and culture.

- The organisation is recognised as a leader in measuring and communicating the impact of its activities and may have established a dedicated impact evaluation unit or centre of excellence. Collaborative work with external partners, such as industry or community organisations, supports a better understanding of the broader impact of activities beyond immediate stakeholders.
- · The organisation is using advanced methods, such as social network analysis or machine learning, to identify and measure impact. It is actively communicating this impact to stakeholders through public reports, dashboards or other channels.
- · Its use of digital tools and communications positions the organisation as a global influencer in terms of open research, public engagement and knowledge exchange.





58 | Wider impact Wider impact | 59

## 27 The impact that organisational decisions around technology investment, implementation and use have on its various business activities

#### **Key framework areas:**

Business continuity planning

#### Select maturity level:



#### **●**○○ Emerging to established

- · Basic evaluations of technology investment, implementation and use are undertaken, with a limited understanding of the broader impact on business activities.
- Technology decisions are evaluated independently by individual departments or teams, without a coordinated organisational approach.
- There is a focus on the financial and operational aspects of technology investments and use, with little consideration for the impact on education, research and other business activities.
- · A limited set of quantitative and qualitative metrics is used to measure the success and impact of technology decisions.
- · Issues are addressed and improvements made on an ad hoc basis without a systematic process in place.

#### ○—— Established to enhanced

- · The organisation has adopted a structured approach to evaluating technology decisions, considering the impact on a wider range of business activities and using sophisticated metrics.
- · Evaluation is coordinated across different departments and teams to develop a comprehensive understanding of the impact of technology decisions on various business activities.
- · Evaluations consider the impact of technology investments and use on education, research and other business activities, in addition to financial and operational aspects.
- · A diverse set of quantitative and qualitative metrics is used to assess the success and impact of technology decisions, including user satisfaction, learning outcomes, research productivity and environmental sustainability.
- · Opportunities for improvement are identified through evaluation and changes are made to enhance the impact of technology decisions on business activities.



- · A culture of continuous evaluation and improvement exists, leveraging data-driven insights and feedback loops to optimise the impact of technology decisions on all aspects of the organisation's business activities.
- · Comprehensive evaluations consider the full range of impacts of technology decisions on education, research and other business activities, as well as the broader organisational context.
- Evaluation is integrated into the strategic planning process, ensuring that technology decisions are continuously aligned with overall goals and objectives.
- A combination of current and future state indicators is used, as well as innovative assessment methods, to measure the success and impact of technology decisions, enabling a nuanced understanding of their effects.
- A systematic process exists for implementing improvements identified through evaluations. A culture of learning and adaptation drives ongoing enhancement to ensure technology decisions have positive effects on all business activities.



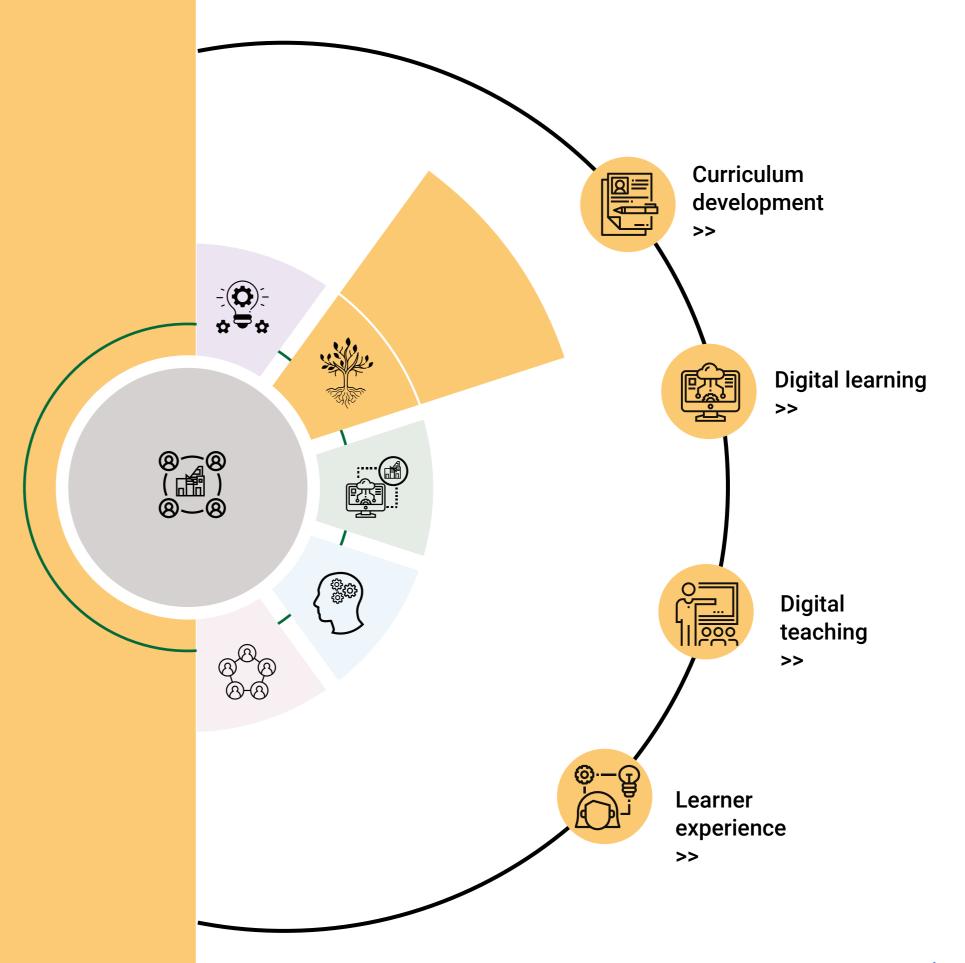


60 | Knowledge development Knowledge development



## **Knowledge development**

Supporting knowledge development within the organisation to ensure all stakeholders can learn, work and thrive in a digital environment. Rethinking and enhancing digital learning, teaching and assessment.









## **Curriculum development**

Reviewing, planning and developing a course of study. Usually a formal departmental and institutional process, mapped to graduate outcomes, benchmarks and professional standards, producing specific documentation (eg course handbook, schedule, VLE materials).

## 28 Strategic approach to digital learning, teaching and assessment (LTA)

#### Key framework areas:

Learning teaching and assessment strategy | Digital strategy | Curriculum design | Learning design | Curriculum frameworks | Validation | International activities

Select maturity level:



- The organisation has plans to develop a strategic approach to digital learning, teaching and assessment to align with organisational values and visions (eg equity, diversity and inclusion [EDI], environmental sustainability) and with other organisational strategies.
- A range of external curriculum frameworks/models and design principles are being reviewed to identify the most appropriate approach/es for the organisation.
- Digital learning and teaching are incorporated to varying degrees in most courses to help meet learning outcomes where appropriate. The potential benefits and impact are not always measured or apparent to learners. Good practice occurs in pockets and is not always shared.
   Validation processes sometimes act as a block to innovation.
- Physical and digital infrastructure is in place to support digital learning, teaching and assessment, to ensure access to appropriate devices, power sources, secure connectivity, spaces and learning management systems.
- Not all faculty members are involved in the development and implementation of digital learning, teaching and assessment, with minimal training or support available. Digital support is available from external teams (eg IT, learning technology, centres of excellence in teaching and learning [CETLs], library).





#### ○- Established to enhanced

 A cohesive digital learning, teaching and assessment strategy has been developed (or embedded into existing LTA strategies) with input from faculty, students and wider departments. The strategy aligns with overall organisational values, goals and objectives, with a focus on enhancing the quality and accessibility of learning experiences.

- There is a structured approach to the development and practice of digital teaching, learning and assessment across the organisation.
- Quality assurance and enhancement frameworks are regularly reviewed and updated to reflect
  the changing needs and expectations around digital learning. Various stakeholders give input
  to this process to incorporate best practices, address emerging challenges and ensure
  alignment with relevant standards and regulations.
- Physical and digital infrastructure supports a wider range of digital learning tools, spaces and platforms, including learning management systems, virtual classrooms, maker spaces, digital hubs and multimedia resources.
- A significant number of faculty members are involved in the development and implementation
  of digital learning, teaching and assessment, with ongoing training and support available to
  enhance their confidence and competencies. Learning technologists and librarians work
  alongside curriculum teams.

## ○—○— Enhanced to mature

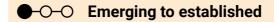
- The digital learning, teaching and assessment strategy is forward-looking and adaptable, focused on continuous innovation and improvement.
- Innovative, pedagogically led approaches exist to design, validate and provide high-quality, flexible and blended learning experiences. Considerations around EDI, environmental sustainability, changing learner needs and expectations inform the ethical and appropriate use of technologies to support learning, teaching and assessment.
- Physical and digital infrastructure offers seamless integration of digital learning tools, spaces, platforms and content across all aspects of the learning experience. New technologies are used as appropriate to achieve pedagogic aims.
- Faculty members are confident and proficient in digital learning, teaching and assessment and
  actively contribute to the development and improvement of digital learning strategies, tools
  and practices. Cross-team working ensures that curriculum development is informed by
  expertise from different departments (learning technologists, librarians, educational developers,
  careers, etc), students and sometimes from other faculties.

# 29 Strategic approach to the development and use of learning resources for curriculum design and digital learning and teaching

#### **Key framework areas:**

Curriculum design | Learning resources

#### Select maturity level:



 The organisation has plans to produce a strategy or policy around the development, management and use of learning resources.

### ○---- Established to enhanced

 The digital learning, teaching and assessment strategy includes the development and use of learning resources to support curriculum design and digital learning and teaching (eg creating and using open educational resources [OERs], e-books, e-journals and other digital content).
 Use of learning resources is tracked and reviewed regularly.

## O-O-● Enhanced to mature

 Curriculum teams work closely with others to develop, manage and use learning resources to support digital learning teaching and assessment (eg students, learning technologists, library and information specialists, IT staff). Information on use informs ongoing resource development.





## 30 Student participation in curriculum design

#### **Key framework areas:**

Curriculum design | Student choice

#### Select maturity level:



 Evidence about student digital capabilities, access to devices and networks and employability needs informs course and module design.



 Feedback is gathered from learners about their digital learning experiences and feeds into curriculum design.

## O-O-● Enhanced to mature

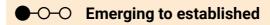
• Students are active participants in decisions relating to course and module redesign and the use of digital technologies. They act as co-creators in curriculum development.

## 31 Appropriate learning models for current needs and to extend reach

#### Key framework areas:

Learning models

#### Select maturity level:



- All courses are blended to some extent, involving a combination of on site (in person) learning
  with digital learning activities and resources. Most learning, in practice, is blended, though the
  time spent in different modes of learning differs.
- A combination of traditional and technology-enhanced approaches exists across the organisation with the majority of the curriculum still delivered through traditional, in-person methods.
- New approaches to course design and modes of delivery that could potentially extend reach
  for a broader range of students are being investigated and reviewed, with the involvement of
  current students, alumni and external partners (eg distance, MOOCs, online, blended/hybrid).

### **○-O**-**O** Established to enhanced

- Digital learning is incorporated into a broad range of courses and programmes, with a mix of
  online, blended, and hybrid (learning that offers on site and/or online activities, usually within
  the same session) approaches as appropriate for different disciplines and student groups.
- The most appropriate course types and models have been identified and validated to reflect discipline and student needs. New course types are being validated and established as appropriate.
- Policies and guidelines have been developed for various course types to aid in their design and delivery.
- Appropriate recruitment and/or staff development results in qualified and skilled staff who can
  use new approaches effectively.
- The organisation uses data and analytics to monitor and improve the effectiveness of the different approaches.





#### ○─○ Enhanced to mature

 Digital learning is deeply embedded across all courses and programmes, with a wide variety of flexible and personalised learning pathways available to meet diverse student needs and preferences.

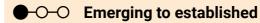
 Collaborations with international and cross-sector partners have facilitated the expansion of course offerings and the development of innovative approaches to existing courses, with evidence of enhanced learning experiences for different groups of students.

## 32 Responding to changes in graduate careers and life paths

#### **Key framework areas:**

Curriculum design | Learning design | Digital capability

#### Select maturity level:



- Curriculum planning tends to be reactive, with a focus on adapting to changes in graduate
  careers and the jobs market as they occur, rather than proactively shaping the future. Some
  faculties make proactive efforts to anticipate changes and future developments in graduate
  careers and job market trends. News and developments are gathered through traditional
  media channels and informal conversations.
- There is some engagement with industry partners and employers to gather insights into the skills and competencies required for graduate careers.

#### 

- Curriculum planning is forward looking and adaptable, anticipating changes in graduate careers
  and the job market and adjusting course offerings accordingly. A wide range of information
  sources are used, including industry reports, labour market data, HESA reports on graduate
  outcomes and expert networks.
- Regular reviews of the curriculum ensure course offerings remain relevant and aligned with the evolving needs of graduate careers and the jobs market.
- There is active engagement with industry partners, alumni and employers to gather insights into the skills and competencies required for graduate careers, and this feedback is incorporated into curriculum planning.





#### ○—○ Enhanced to mature

Curriculum planning responds to current trends, anticipating change and preparing students
for the future of work and the evolving needs of graduate careers. Input from industry partners
supports analysis of trends and developments, combining data-driven insights with expert
opinions and qualitative research.

- A culture of continuous improvement and innovation in curriculum planning has been established, adapting course offerings in real-time to respond to changes in graduate careers and the jobs market within the constraints of the validation process.
- Strong, long-term partnerships with industry leaders, employers and alumni exist, to co-create
  educational experiences that develop the skills and competencies required for successful
  graduate careers.

## 33 Design of digital assessment and feedback

#### Key framework areas:

Assessment and feedback

#### Select maturity level:

## ●-O-O Emerging to established

- Assessment design includes the use of digital tools and technologies to support traditional
  approaches to assessment and feedback. These include multiple-choice quizzes, online essays
  and short answer questions through a learning management system (LMS) or virtual learning
  environment (VLE).
- Staff have some support in using digital tools for assessment design, management and grading.
   Staff and students are familiar with using plagiarism detection software. Validation mechanisms and activities take a risk-averse approach to using new digital approaches, particularly for high stakes summative assessment.
- Security and reliability are key criteria for technical infrastructure to support assessment.
   Academic integrity and accessibility are considered as factors in all digital assessment design.

### ○- C Established to enhanced

- Imaginative use of digital tools and technologies supports the design of more engaging, inclusive and innovative assessments. Various digital assessment methods are being adopted/ or trialled, such as multimedia projects, online presentations, simulations, gamified assessments (eg badging), to cater to diverse learner needs and preferences.
- Advanced assessment tools such as automated grading systems and learning analytics are being introduced to improve efficiency and effectiveness.
- Professional development opportunities are offered to help staff stay up to date with emerging digital assessment trends and best practices to create valid, reliable, inclusive and authentic assessments. Collaboration and knowledge sharing among curriculum teams promote the development and adoption of innovative digital assessment methods.
- There is a focus on improving digital accessibility and inclusivity to ensure all students can participate in digital assessments, including provision of alternatives if required.





72 | Curriculum development | 73

### ○─○ Enhanced to mature

 Digital assessment is integrated into course and curriculum design. Advanced technologies, such as artificial intelligence, machine learning or adaptive learning systems, are being used to create personalised assessment that adapts to individual student needs and progress. Digital technologies support peer- and self-assessment and learners use digital tools and services to reflect on, record, manage and share records of their achievement.

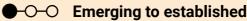
- Data-driven decision-making processes support continuous evaluation and refinement of digital assessment strategies based on student performance, feedback and learning analytics.
- Cross-faculty conversations support sharing of best practices, tools and resources related to digital assessment.
- Staff are encouraged to experiment with innovative digital assessment methods for formative feedback, like virtual and augmented reality, to create immersive and engaging learning experiences. Students are encouraged to join conversations about the impact of digital tools on ethical, fair and secure assessment (eg large language models [LLMs]).
- The organisation is seen as a leader in digital assessment innovation, contributing to research and knowledge dissemination in this field.

# 34 Embed digital learning capabilities and academic skills into courses of study

#### Key framework areas:

Digital capability

#### Select maturity level:



- The organisation offers generic training in core technologies and digital skills at student induction and at point of need in future.
- · Resources are provided to support the development of academic skills.
- Some course teams and student representatives champion the inclusion of digital capabilities in learning outcomes, but this is not yet embedded practice across the curriculum.
- Digital capabilities are viewed as important learner/graduate outcomes and employability skills.

## ○---- Established to enhanced

- Students experience contextualised use of technology and build digital and academic skills through project work and assessment.
- Organisational quality assurance processes support the embedding of digital capabilities into the curriculum.
- The inclusion of digital practices is an important aspect of building employability outcomes into the curriculum/research design.
- Students/researchers gain experience in using up-to-date digital tools for their discipline/future profession and participate in digital communities of practice.





74 | Curriculum development | 75

### ○─○ Enhanced to mature

 Development of appropriate digital capabilities and academic skills is fully embedded into curriculum design and accredited by inclusion in learner/graduate attributes, research mentoring and summative assessment.

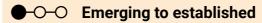
- Innovative use of digital technologies is a key differentiator between the organisation's courses and those of competitors.
- Digital capabilities for graduate attributes are fully embedded into the employability agenda as appropriate for different courses.
- Digital tools, such as virtual environments and simulations, accelerate and enhance learning by creating authentic learning situations. Strong links with industry and employers inform curriculum design to anticipate future employability requirements.

# 35 Encourage and support research into digital and online learning

#### Key framework areas:

Learning models | Effective digital learners | Student learning

#### Select maturity level:



- Investigations into the potential of digital and online learning are led by specific teams (eg CETL, educational developers, learning technologists) or interested individual academics.
- Research activities are focused on understanding the basics of digital learning technologies, pedagogical approaches and effective digital learning environments. This is fed into strategic planning, staff development/support and curriculum design within the organisation. Pilot projects explore the feasibility of implementing digital and online learning within the organisation.
- Some collaboration and networking with other institutions and organisations supports sharing of research activities, outputs and expertise.

## ○---- Established to enhanced

- Research activities around digital and online learning include in-depth studies that evaluate implementation within different faculties. Research informs a range of activities to improve student outcomes and data analytics provide regular input to ongoing research.
- A dedicated centre for digital learning research and development serves as a hub for expertise and collaboration.
- Partnerships with industry leaders, edtech companies and other educational institutions expand the scope and impact of research.

## O—O— Enhanced to mature

- The organisation is recognised as a leader in digital and online learning research. Researchers
  explore the use of innovative and disruptive technologies to support learning (eg artificial
  intelligence in education, adaptive learning, personalised learning experiences). The impact of
  digital and online learning on EDI, environmental sustainability, quality and learning
  experiences is considered or included in all research activities.
- The organisation is actively involved in shaping national and international policies around digital
  and online learning, advocating for equitable access and quality assurance. It fosters a culture
  of continuous improvement using research findings to refine and enhance digital learning, and
  best practices are shared with the broader academic community.





76 | Digital learning



## **Digital learning**

Learning that takes place through digital devices, media and environments, or with digital applications. Digital learning may take place live and in person, live online, or through asynchronous resources and environments. Includes digital learning and development of staff, as well as formal or informal learning of students.

# 36 Digital personal/professional development opportunities

#### **Key framework areas:**

Staff development | Staff recruitment and retention | Digital capability

#### Select maturity level:



- Staff have limited formal opportunities to use digital tools for reflection, professional development
  or appraisals. Some basic online training opportunities exist (or have been procured) as part of
  staff induction around health and safety, cyber safety, specific proprietary technologies such
  as MS Teams or MS Office, etc.
- Staff development opportunities tend to focus around specific in-person training days, team development training or external courses or events.

## O-●-○ Established to enhanced

- The organisation offers digital learning opportunities for staff as part of its digital capabilities plan, as appropriate for their individual role needs.
- Staff are encouraged to self-assess their own digital capabilities and identify development needs as part of professional development and appraisal activities.
- Digital learning opportunities for staff are informed by good pedagogical design and integrated with mechanisms that allow them to reflect on and evidence their learning to support their job roles.
- Staff are encouraged (ie given time and support) to take part in external online courses to enhance skills, share practice and network with professional peers outside the organisation.





78 | Digital learning | 79

### ○─○ Enhanced to mature

• Opportunities for reflection, recognition and reward for digital learning activities are offered throughout the organisation.

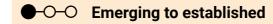
- Digital learning and teaching expertise within the organisation is harnessed to develop higher education staff development opportunities outside the organisation (eg short courses, open courses, developing communities of practice).
- Courses focusing on digital learning and teaching are available at various levels (short courses, diplomas, BA, MA, etc) and model good practice for professionals across the sector.
- Staff use digital tools provided by the organisation as appropriate to gain advanced professional qualifications (eg National Teaching Fellowship, Professional Chartership) and to carry out research in their discipline or professional area.

## 37 Development of digital capabilities among learners

#### **Key framework areas:**

Effective digital learners | Student learning | Digital capability | Library and learning resources

#### Select maturity level:



- The organisation provides students with basic digital capability support that focuses on digital proficiency and productivity. Support and guidance in using the technology, tools and platforms provided by the organisation is available and augmented by some online tutorials.
- Access to networks, platforms, learning and study spaces prioritises students on campus.
   Basic onboarding and orientation are offered during in person student inductions.
- Some evidence is gathered around student access to tools, networks and platforms, and reactive approaches to dealing with problems have been adopted.
- Course design includes some interactive elements and multimedia content, but there is limited understanding around the levels of digital learning capabilities that students have.

## ○---- Established to enhanced

- The organisation recognises that students need support to develop capabilities for effective digital learning. Comprehensive digital literacy training, workshops, guidance and supplementary courses are offered around a range of digital capabilities (eg digital communication, collaboration, information and data literacy, digital identity management, digital wellbeing, digital learning).
- Proactive efforts support access to necessary tools, platforms, learning and study spaces and resources include loan devices, assistive technologies, adaptive learning technologies and diverse learning spaces.
- Flexible and engaging course design incorporates a variety of multimedia content and interactive elements as well as increased opportunities for online interaction and collaboration, with structured activities and projects.
- Students can access support and feedback easily from a range of teams and services, including virtual office hours and responsive communication channels.





80 | Digital learning Digital learning

### ○─○ Enhanced to mature

Supporting students to become effective digital learners is a critical part of organisational digital
capabilities plans. Digital capabilities are integrated into the curriculum, supported by digital
resources and guidance on time management, reflection, critical engagement, self-regulation
and other skills that are essential for digital learning success. There is a shared understanding
around digital capabilities for effective learning and input comes from a range of teams across
the organisation.

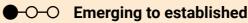
- A blend of in person and digital mechanisms ensures timely and responsive support, feedback and guidance to augment progression and attainment records.
- Targeted support and initiatives to ensure inclusion mean that students don't experience barriers when accessing tools, platforms, learning and study spaces and digital content either on or off campus.
- Course design responds to diverse learning needs and preferences through the involvement of students as partners.
- Organisation tools and platforms support online interaction and collaboration, fostering a sense of community and connection among students when off campus.

# 38 Digital opportunities to encourage self-regulated independent learning

#### **Key framework areas:**

Self regulation | Library and learning resources

#### Select maturity level:



- Digital learning platforms offer basic features to support independent learning (eg access to course materials, progress tracking and assessment tools).
- Some opportunities for digital peer-to-peer collaboration and communication are provided, but students are unsure of the benefits to their learning. Students are focused on passing summative assessment rather than broader learning.
- Digital library services provide access to wider collections and resources and offer online tutorials to help students broaden their research for coursework.

## ○---- Established to enhanced

- Digital learning platforms support self-regulated learning through enhanced accessibility and flexibility, with multimedia content and mobile-friendly interfaces.
- Progress tracking and analytics allow learners to set goals and monitor their performance.
- Opportunities for peer-to-peer collaboration are encouraged through course-related discussion forums and group projects.
- The organisation has introduced adaptive learning technologies and personalisation features to support individual learning needs and preferences.
- Access to a wide range of digital learning resources and materials offers diverse perspectives, and information literacy support and training encourage critical engagement with diverse materials.





82 | Digital learning Digital learning

## ○—○ Enhanced to mature

 Reliable, accessible and flexible tools, platforms, networks and content support self-regulated, independent learning. Students have opportunities within their course to embrace independent learning activities and they understand the benefits of this.

- Progress tracking, analytics and immediate feedback enable learners to make data-driven decisions about their learning strategies.
- Learners, instructors and tutors develop and participate in learning communities and professional networks to widen participation and encourage discourse in their discipline.
- Personalised learning pathways incorporate advanced adaptive learning technologies and Al-driven recommendations.
- Students have access to rich, diverse learning resources including expert-created content, curated
  materials from external sources and open content. They are also encouraged to share what
  they create themselves.
- Time management and productivity tools help learners manage their learning and maintain focus on their educational goals.

# 39 Awareness of digital skills learners will need in their chosen career pathways and opportunities to practice them throughout their course/s

#### **Key framework areas:**

Digital capability

#### Select maturity level:



- Digital capabilities are seen as important learner/graduate outcomes and employability skills.
- General digital capabilities such as digital proficiency, productivity, digital communication and collaboration are supported through basic online digital literacy guidance and support.

## ○---- Established to enhanced

- Including digital practices is an important aspect of building employability outcomes into the curriculum/research design.
- Students/researchers gain experience in using up-to-date digital tools for their discipline/future profession and take part in digital communities of practice.

## ○-○- Enhanced to mature

- Digital capabilities for employability are fully embedded into courses as appropriate and updated to reflect changing needs and anticipated future demands.
- Digital tools, such as virtual environments and simulations, accelerate and enhance learning by creating authentic learning and assessment opportunities.
- Students engage in conversations with curriculum teams, alumni, industry and professional
  partners around future employability needs and trends, which feed into course development.





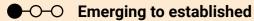
84 | Digital learning | 85

# 40 Opportunities for learners to record achievements and reflect on progression over time

#### **Key framework areas:**

Student progression | E-portfolios | Personalised learning

#### Select maturity level:



- Some digital solutions allow students to track their attainments and progress. A learning management system (LMS) gives students access to course materials, submit assignments and view grades.
- Traditional career services include in-person counselling and career fairs, supplemented with basic online resources like job listings and CV templates.
- Some use of data analytics allows student progress to be monitored and supports provision of feedback

## ○---- Established to enhanced

- Advanced tools and systems help learners to track their attainments and progress and reflect on their personal development. These include personalised learning plans, real-time progress tracking, career pathways mapping, online portfolios and competency-based assessments.
- Learning and career development experiences are integrated in course design and students
  can access a wide range of career advice and counselling services, including job placement
  and career networking opportunities, career assessment tools and virtual networking events.
- The organisation uses data analytics to identify patterns in student performance and suggest targeted interventions to support their growth.
- Digital badges and micro-credentials are provided for students to showcase specific skills and competencies.

### ○-○- Enhanced to mature

- A comprehensive and personalised learning ecosystem supports student reflection and provides a variety of mechanisms to record achievements and progression.
- Al-driven systems that adapt to individual learning needs suggest tailored learning pathways and resources to optimise student success.
- Digital career services include virtual mentorship opportunities with alumni and industry professionals, job-matching algorithms and personalised career roadmaps.
- Integration of learning analytics, predictive analytics and adaptive learning technologies continuously refine the learning experience and proactively support students' progress.
- Strong partnerships with local industry offer practical, skills-based learning experiences and real-time feedback on students' career potential.





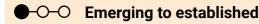
86 | Digital learning Digital learning

## 41 Diverse needs of digital learners

#### **Key framework areas:**

Accessibility and inclusion | Student choice | Flexible learning | Student support | Personalised learning

#### Select maturity level:



- The organisation assesses the diverse needs of different learner groups to identify issues
  around access to (and use of) technology, networks, digital content and learning spaces. It
  uses surveys, focus groups and data analysis from learning analytics tools to inform this process.
- Responses to expressed student needs and requirements include some tailored content, technologies and support services.
- Different modes of learning are being considered to accommodate off-campus students.
   Compliance with guidelines and regulations ensures that online content is generally accessible.
- Responses to diverse needs tend to be reactive and there is limited understanding around how
  different diversity needs affect the learning experience (eg digital and data poverty, disabilities,
  neurodivergence, mental health, language other social challenges, international students).
- There are opportunities for ongoing discussions with students about the ethical and appropriate
  use of tools and technologies (eg AI) through roadshows, sessions in course, workshops,
  signposting to guidance etc.

## ○---- Established to enhanced

- Inclusivity and accessibility are highlighted in organisational values and strategies, ensuring that digital learning activities, resources, support, platforms and tools are designed with diverse needs in mind.
- Digital infrastructure developments have improved reliability, security and connectivity to respond to the diverse needs of students on and off campus.
- Robust processes identify and assess different learner groups' needs. These processes include
  data-driven insights and regular dialogue and feedback from students and stakeholders. Students
  have opportunities to assess their own levels of digital capability and access needs. Previous
  digital learning experiences are recognised and taken into account (eg for international students).

- Blended learning options provide some choice for students around how and when to participate
  according to their specific needs. Specialist support services have been extended through digital
  options for remote learners (eg chat, video conferencing). Students are supported to use their
  own devices and tools to ensure these are secure, reliable and maintain academic integrity.
- Collaboration with a range of stakeholders, such as industry partners and other institutions, focus on continually improving and expanding services based on the identified needs of learners.

## O-O- Enhanced to mature

- Meeting the needs of diverse learners through systematic engagement and needs assessment is a core component of the organisation's mission and value proposition.
- A mixture of in person and digital approaches is used to identify and assess the diverse needs
  of learners, including insights surveys, focus groups, artificial intelligence, machine learning
  and predictive analytics.
- Student recruitment and induction processes give students a clear idea of course requirements and how technologies will be used to ensure realistic expectations.
- Induction includes an initial assessment and review of technology requirements, digital learning capabilities, digital learning and study preferences, and development of a personalised learning plan. Students are encouraged and supported to review this periodically throughout their course, through a mixture of in person and digital diagnostic methods.
- Innovative teaching methods and technologies, such as adaptive learning systems, virtual and augmented reality, and Al-driven learning analytics, contribute towards a more personalised and inclusive learning experience based on assessed needs.
- Students are involved as active partners in shaping systems, services and content, fostering a culture of continuous improvement and innovation.
- Data confidentiality and integrity are maintained when all stakeholders access systems and services.





88 | Digital learning Digital learning | 89

## 42 Seamless physical and remote access to digital information

#### **Key framework areas:**

Library and learning resources | Student support

#### Select maturity level:



#### ●──── Emerging to established

- The library offers a range of digital services to support learners on and off campus. Established technologies, tools and systems support all library operations. A high level of expertise exists around technology use to support collections management, information discovery, retrieval and storage, data collection and analytics, research and learning.
- Policies to support a 'digital first' approach to resources provision have been established by library and information specialists.
- There are regular reviews of digital collections held across the organisation to support curriculum requirements.
- · A range of digital resources is provided through the library to support learning, teaching and research including e-books, e-journals, databases, multimedia materials and open educational resources. Inter-library lending mechanisms are in place to support access to materials not held in the library.
- Research guides, tutorials and other online resources are provided to support students.
- A regularly updated library social media presence supports learner engagement, shares news and promotes library services and collections.
- Workshops, seminars and online tutorials help students and faculty develop information literacy skills and navigate digital resources.
- Access to, and support for, digital tools and spaces support private and group study.

#### ○—— Established to enhanced

- · The library is a significant contributor towards the digital transformation of learning and teaching through advanced use of technologies and established practices that enhance user experiences and support learning and research.
- Systems and workflows are in place to support provision of comprehensive collections through digitisation. Metadata standardisation and exposure to discovery systems supports discovery of relevant digital content. Library staff are exploring innovative approaches to providing shared digital resources.

- · Specialised databases, digital archives and institutional repositories augment the range of digital resources to support learning.
- The library website/portal includes options for personalisation. A strong and active social media presence engages users, builds community and raises awareness of resources available. Remote access to library support is offered, for example via virtual reference chats or online consultations with librarians.
- · Seamless integration between library systems and the learning management system makes it easier to share accurate high-quality data and learning analytics.
- The library is seen as a critical resource to support different kinds of study through the provision of technology-enhanced private study spaces, digital hubs, maker spaces and group spaces.
- · Strong partnerships with faculty staff provide opportunities to feed into curriculum design and teaching

### ○-○- Enhanced to mature

- The library is seen as a leader across the sector (and internationally) in using technology and in providing innovative library services to support learning and teaching.
- Library and information specialists contribute to strategic plans for digital learning, teaching and assessment.
- · Library systems are integrated (eg unified or merged catalogues) to ensure seamless discovery and access to content. Adoption of Al-based technologies, like chatbots or machine learning algorithms, enhance user experiences and improve library services.
- Library and information specialists have a strong relationship with faculty to ensure the digital resources provided are impactful and give value for money, and work with curriculum teams to embed information literacy and incorporate appropriate use of digital resources in learning, teaching and assessment.
- · A variety of inter-library lending mechanisms support access to digital content.
- · Advanced digital preservation and curation strategies ensure the long-term accessibility and usability of digital collections.
- · Data analytics and visualisation tools around student learning inform strategic planning, assess library services and lead to better understanding of user needs.





Digital teaching | 91 90 | Digital teaching



## **Digital teaching**

Teaching through digital devices, media and environments or with digital applications. Digital teaching may take place live and in person, live online, or by supporting students with a variety of asynchronous resources and environments. Also supporting students with their digital learning skills.

## 43 Digital learning, teaching and assessment infrastructure

#### **Key framework areas:**

Learning environments | Assessment and feedback | Learning infrastructure | Blended/hybrid approaches | Open educational practice (OEP) | Open educational resources (OER) | Learning resources | Student support | Digital capability

#### Select maturity level:



### ● ○ Emerging to established

- · Digital teaching and assessment are supported by a learning management system (LMS) or virtual learning environment (VLE) and augmented by a range of different technologies and systems (eg online collaboration tools, video conferencing platforms, e-portfolios, video recording and editing software). These tools are not always integrated and adoption across the institution is often dependent on individual champions.
- · All teaching is blended to some extent, combining a mixture of on site, in person learning with digital learning activities and resources. A combination of traditional and technology-enhanced approaches exists across the organisation.
- Online resources to support digital learning and teaching are available through appropriate systems and services (library portals and platforms, LMS, faculty websites).
- · Most formative and summative assessment practices make use of digital tools to support assessment design, delivery, marking, recording or managing results. Students use technology to complete and submit assignments (eg secure exam platforms, online guizzes, digital submission systems, plagiarism detection software).





92 | Digital teaching

## 

 The digital learning ecosystem includes enhanced LMS features, such as analytics for monitoring student progress and adaptive learning software that uses artificial intelligence and machine learning to personalise learning experiences for students.

- Virtual reality, augmented reality and simulation tools are being piloted by some faculties to create immersive learning experiences that mirror real world working environments and build employability skills.
- The organisation has developed digital repositories for storing and sharing course materials like open educational resources (OERs).
- Digital teaching is incorporated into a broad range of courses and programmes, with a mix of online, blended and hybrid approaches as appropriate for different disciplines and student groups.
- Automated grading systems, learning analytics, adaptive testing and competency-based assessments are being used or piloted. Digital assignments aim to increase engagement and cater to diverse learner needs and preferences.
- The organisation is reconsidering assessment practices to respond to issues around ethics, authentic assessment, plagiarism, cheating and diverse student needs.

## ○—○— Enhanced to mature

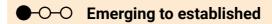
- A strategic approach to digital teaching and assessment is supported by a fully integrated LMS, with features that facilitate engaging and personalised learning experiences (eg Alpowered chatbots, immersive learning environments, social learning communities, multidisciplinary learning).
- Digital teaching is embedded across all courses and programmes, with a wide variety of
  flexible and personalised learning pathways available to meet diverse student needs and
  preferences. An integrated learning experience ensures that student engagement is sustained
  through multiple modes. Various synchronous learning activities are offered in person and off
  campus, supported by asynchronous activities to provide flexible opportunities for participation
  wherever and whenever is convenient for learners.
- A strategic approach to using technology-enabled assessment and feedback across the organisation results in a cohesive and consistent experience for curriculum teams, students and external examiners.
- Learners have a clear understanding around the value of formative feedback and participate in this through peer- and self-assessment. Students use digital tools and services to record, manage and share progress and records of achievement.
- The organisation is seen as a sector leader in digital learning, teaching and assessment.

## 44 Recruitment and retention of teaching staff

#### **Key framework areas:**

Staff development | Digital capability

#### Select maturity level:



- The organisation recognises the importance of teaching staff having confidence and capabilities around digital learning, teaching and assessment.
- Some recruitment and retention procedures to attract and retain highly skilled digital teaching
  practitioners may be hampered due to lack of resources, and temporary, short-term contracts.
  The organisation offers regular training to faculty teams on using digital learning, teaching and
  assessment tools effectively.

## ○---- Established to enhanced

The organisation acknowledges the importance of recruiting and retaining digitally confident
and capable teaching staff. Benefits and conditions are offered to attract and retain staff, for
example flexible working, competitive salaries, long-term contracts and attractive benefits.
Digital teaching and assessment skills and expertise are valued across the organisation.

## ○—○— Enhanced to mature

- The organisation recognises the value that highly skilled teaching staff can offer to digital transformation and it takes a strategic and innovative approach to recruitment, retention and development to attract and retain the best quality staff.
- Senior teaching staff are actively involved in developing organisational strategies and policies, and in influencing innovation in digital learning, teaching and assessment.
- Digitally confident and experienced teaching staff contribute expertise to professional groups and communities of teachers (such as Advance HE, Change Agents' Network [CAN], Staff and Educational Development Association [SEDA]).





94 | Digital teaching

## 45 Development and training of teaching staff

#### **Key framework areas:**

Staff development | Digital capability

#### Select maturity level:



The organisation is investing in training and development opportunities to help teaching staff
acquire new skills and stay up to date with the latest trends and technologies. There is insufficient
understanding of faculty staff's existing levels of digital confidence and capabilities and there
are no opportunities for cross-faculty sharing of expertise or experience.



 There is significant investment in training to support teaching staff with professional development and skills updating. Opportunities for further teaching certification are offered and the value of technology enhanced teaching is recognised and rewarded.

## ○—○— Enhanced to mature

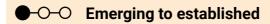
- The organisation is investing consistently in the development and wellbeing of curriculum teams and teaching staff, and it has created a culture that supports professional growth and advancement. Curriculum teams are working closely with leadership and other appropriate teams to integrate systems, services and networks into digital learning, teaching and assessment practice.
- Staff share their digital teaching and assessment expertise and experiences outside the
  organisation through research, academic papers, professional networks and events. Open
  educational practices (OEPs) are encouraged and seen as an important way to broaden and
  increase access to high-quality education.

## 46 Offering a range of learning and study spaces

#### Key framework areas:

Library and learning resources | Learning spaces | Study spaces

#### Select maturity level:



- A wide range of learning, teaching and study spaces is available across old and new buildings.
   These include spaces in faculty buildings, the library and other common areas such as cafes, students' union, etc.
- Learning spaces vary in layout, style, capacity, digital facilities and quality. They include large
  lecture theatres capable of holding several hundred students, smaller lecture theatres and
  classroom-style spaces, seminar rooms for a dozen or so students, quiet individual study
  spaces and areas for group work.
- Disparate data sources about rooms (booking, equipment, uses) are maintained by different departments.
- Some learning spaces in newer builds have integrated digital systems for communication, collaboration, energy management, and access. The organisation is committed to exploring new solutions that will improve older learning spaces.
- Learning space design is informed by a purely pragmatic perspective, primarily through an estates management and technology lens.

## ○---- Established to enhanced

- A strategic approach to investment, planning and development of learning and study spaces has been adopted.
- A comprehensive audit of existing spaces helps to prioritise development and highlights where spaces are not optimised or used effectively.
- The design of learning spaces is led by estates and IT teams. Outcomes are often focused on service delivery rather than pedagogic practice.
- Most learning spaces reflect traditional designs and approaches (eg serried ranks of seating facing in a single direction, audiovisual and digital equipment focused towards the front of a learning space, complex and bulky lectern-based solutions).
- Furniture, equipment and room layout can often act as a barrier between participants and many rooms require technical assistance support when issues arise.





96 | Digital teaching

- There is no real understanding of how much of the technology is being used, by whom and when.
- Learning spaces are primarily formal, with some informal learning spaces available in cafes, catering outlets or the students' union.

## ○—○ Enhanced to mature

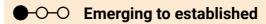
- Strategic investment in smart campus design results in a coordinated approach to learning, teaching and study space provision across the organisation. Flexible teaching spaces accommodate a range of teaching styles and activities. The variety of study spaces supports individual and group learning. Students' own learning spaces and devices are taken into account when designing courses.
- A single board or committee leads on learning space design with an inclusive membership including senior leaders, estates, IT, teaching staff, library, learning technologies and students.
- Integration of physical and visual learning spaces ensures an equitable and inclusive experience for diverse users, and helps to build communities, learner participation and a sense of belonging.
- Specialised spaces provide a virtual or simulated real-world environment (eg ward or building site). Augmented reality devices deliver an immersive experience in a real space.
- Consistent user experience in all spaces, familiarity with software and hardware, and effective staff development all combine to encourage and nurture confidence in users.
- Learning space technology is managed via cloud platforms to enable proactive, preventive maintenance. Technology and platforms have the functionality to record use, types of user, time of use.
- Digital booking screens are placed outside all spaces to enable rapid and flexible booking by staff and students.
- All software solutions are producing data about space utilisation, enabling data-driven decision making. Adaptations or changes to the design or purpose of space are well informed, scrutinised and approved at board level, ensuring strategic alignment, focused investment and a consistently good user experience.
- Anonymous data (location, time and numbers of users within the building) is gathered via wifi
  analytics and reported to the strategic learning space group, to support ongoing planning and
  future investment.

## 47 Strategies for the ethical use of learning analytics

#### **Key framework areas:**

Data analytics | Ethics

#### Select maturity level:



- Although the organisation recognises learning analytics' potential to inform teaching and curriculum development it has not been implemented in a strategic way.
- Data collection, management and analysis is fragmented, uncoordinated and hampered by disparate unintegrated systems.
- Learning analytics capabilities vary across teams and there is little understanding or guidance around ethical use of student data to inform teaching and curriculum design.

### ○ Established to enhanced

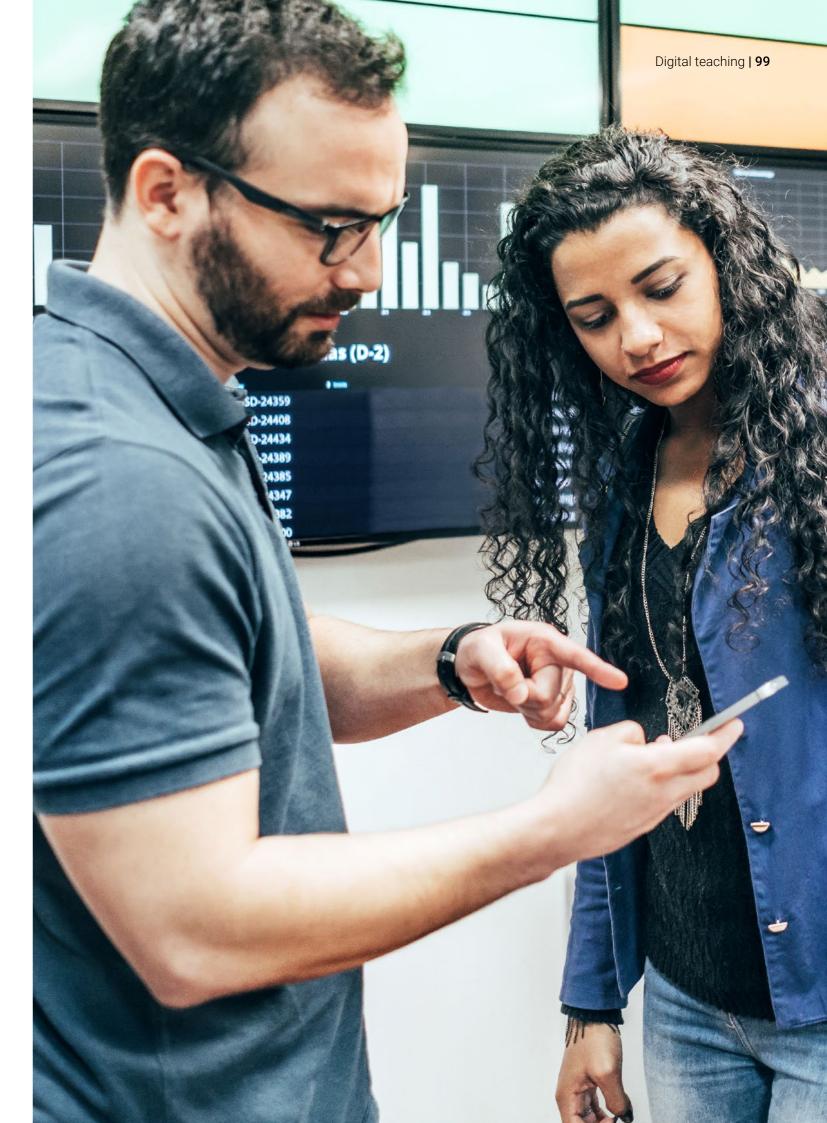
- Infrastructure developments and increased systems integration have improved data collection, management and analysis of learner data. A code of ethics for the use of data has been developed and staff and students have a shared understanding of the benefits.
- Staff have access to tools and systems (eg dashboards) for data management and visualisation, and have undergone training to use these effectively. Learning analytics insights inform teaching and curriculum development, support understanding about student engagement and trigger early interventions to enhance the student experience.
- All use of personal data in digital learning is lawful and transparent in compliance with data protection legislation.
- Predictive analytics identify students who are at risk of dropping out and help to provide appropriate targeted support, and machine learning and AI are supporting data analysis.





## **○**—**○**— Enhanced to mature

- Learning analytics are being used effectively to inform curriculum development, physical and digital infrastructure planning and library provision as well as progress tracking, appropriate interventions and feedback for students. All stakeholders trust that the use of learner data is transparent, accountable and fair.
- Comprehensive and accurate data collection, integration and analysis capabilities inform decision making, investment and planning.
- Learning analytics insights drive a wide range of personalised learning initiatives and targeted interventions. Robust faculty development programmes ensure all educators are skilled in using learning analytics to inform their teaching.
- Benchmarking and comparison initiatives continuously improve teaching and learning outcomes based on best practices and data-driven insights.





100 | Learner experience



## **Learner experience**

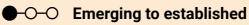
The subjective experience of learning overall, including the taught curriculum and non-curricular activities such as private study, learning skills support, library resources, careers support and informal collaborative learning. Also includes aspects of emotional and personal wellbeing.

# 48 Identify and recognise how the variety of learner experience can inform developments

#### **Key framework areas:**

Student experience | Digital fluency | International activities

#### Select maturity level:



- The organisation uses several mechanisms to find out about the experience of students, but results are not always dealt with in a coordinated way.
- Survey fatigue affects the value of some results and students are not always clear about the value and impact of feedback.
- A variety of surveys inform a range of student experience initiatives, including module evaluation surveys, annual student experience surveys, annual National Student Survey (NSS), Jisc student digital experience insights survey.
- Students are given formal mechanisms to offer feedback through student representatives, student councils, student union representatives.
- In-depth measures used to gather feedback on specific aspects include focus groups and interviews.
- · Students provide informal feedback directly to lecturers or tutors.
- · Anonymous feedback is gathered through physical feedback boxes or online forms.

## O-●-○ Established to enhanced

- Digital infrastructure developments have added a range of reliable and robust mechanisms to gather, manage and analyse student experience data.
- These augment direct feedback gathered from students to present a fuller picture of individual experiences, as well as opportunities to baseline and benchmark things such as digital experiences of learning, attainment, progression, digital capabilities, etc.





102 | Learner experience

### ○─○ Enhanced to mature

 The organisation is recognised for its work with students as partners and for listening to the student voice. A range of student rewards and recognition for participation encourage engagement and students act as champions and ambassadors in the wider sector in a range of areas (eg digital capabilities, employability skills).

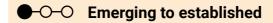
- Learner experiences feed into developments in curriculum design, digital tools and technologies, student services, digital collections and learning resources.
- The diversity of student needs is recognised and this informs the design and implementation of digital learning, teaching and assessment. An integrated physical and virtual campus fosters a positive, holistic experience for learners from recruitment to post-qualification.

## 49 Supporting the wider experience of students

#### **Key framework areas:**

Sense of belonging | Student support | Building digital communities | Economic/Financial literacy

#### Select maturity level:



- The physical campus environment provides a range of traditional spaces, services and opportunities for students to experience social integration and develop a sense of belonging.
- The university website gives a welcoming first experience that supports recruitment and onboarding.
- Financial and administrative support information is provided during the application process through the website and student support services.

## ○---- Established to enhanced

- Students are encouraged to use social media and online platforms for communication and networking with their peers.
- Students can have an online presence in clubs, societies and extracurricular activities, and some virtual events and resources are available.
- Online access to information about financial help, resources and application forms is available.
   Digital tools enable tracking of financial aid applications and disbursements.
- Financial literacy is recognised as important, and tutorials and support are available for students who are struggling to manage their finances.





104 | Learner experience

## ○—○— Enhanced to mature

• The organisation is committed to providing a progressive, supportive and inclusive experience for all learners from initial recruitment and onboarding, throughout their course and as alumni.

- Comprehensive use of digital tools fosters a connected and inclusive online community and students feel a strong sense of belonging on and off campus. Virtual and physical participation in clubs, societies and extracurricular activities fosters networking and social integration.
- Digital aspects of financial literacy are included in the digital capability plans for students. Comprehensive digital financial help is available, including online resources, tools for tracking applications and disbursements and virtual financial advice services.
- Students are encouraged to discuss problems around finances and can opt into using integrated digital tools that can proactively identify who needs financial support and streamline the aid process.

## 50 Alumni engagement

#### **Key framework areas:**

Sense of belonging | Building digital communities

#### Select maturity level:



• The organisation offers alumni opportunities to engage through networking, mentorship and activities organised by the alumni support team or office.



 Alumni have tools to stay connected to the organisation and engage in social opportunities and networks.



• Alumni are seen as important partners and digital networking and tools support mentorship of students, as well as feedback around learner experience and employability/professional skills.





## 51 Support for digital and personal wellbeing of students

#### **Key framework areas:**

Digital wellbeing | Digital capability

#### Select maturity level:

## ●─── Emerging to established

• Wellbeing support teams tend to focus on in person support services. Signposting to support and guidance services is offered through student induction, faculty staff and webpages.

## O- C Established to enhanced

- Digital wellbeing is recognised as an important aspect of student health and wellbeing. The
  organisation encourages students to consider the potential negative effects of using technology
  and networks and it gives guidance and support to mitigate these. Tools and guidance support
  personal health and fitness and all students are encouraged to identify and articulate how
  assistive technologies might benefit them.
- Online resources and self-help tools are available to support mental health and wellbeing.
   Virtual counselling and support are available for students off campus.

## ○—○— Enhanced to mature

- Digital wellbeing is integrated into digital capabilities support for students. Comprehensive
  digital health and wellbeing resources are available (eg online self-help tools, virtual support
  groups and counselling services). Integrated digital systems and tools monitor and support
  student wellbeing proactively in an ethical and appropriate way.
- Students are aware of different aspects of digital wellbeing, including effects on physical and mental health, which aspects they can improve, how to ask for help and support, and how to use technology to enhance health and wellbeing.

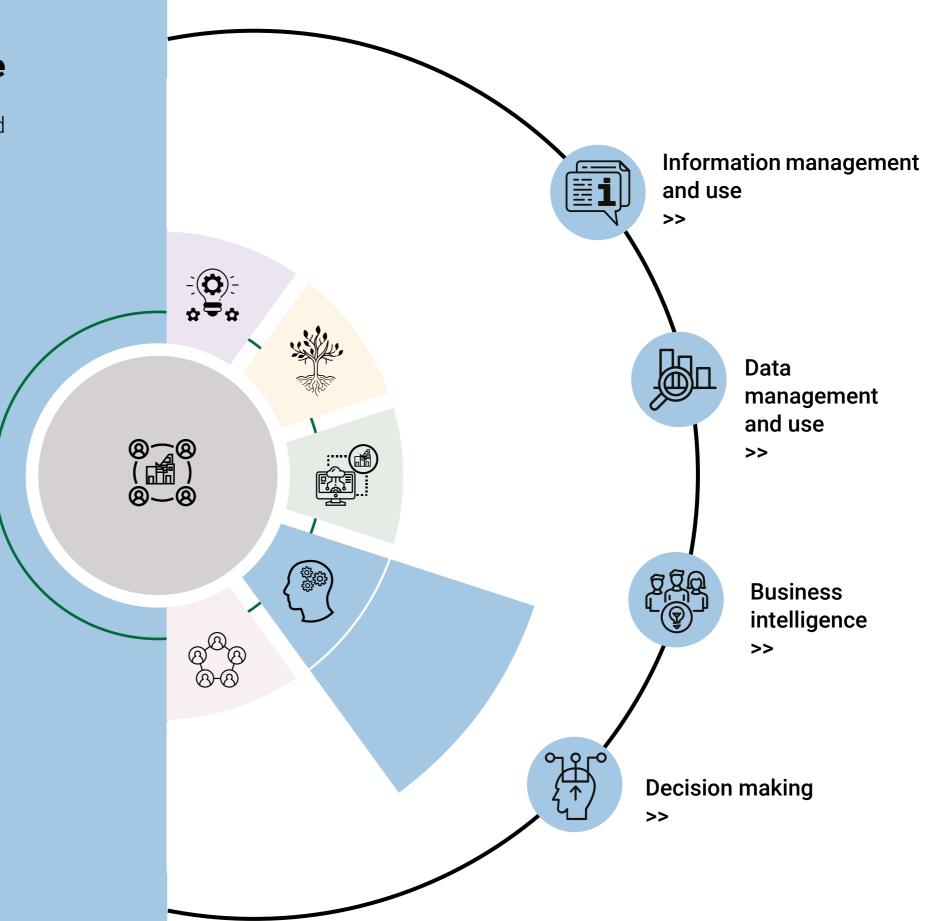






## **Knowledge management and use**

Enhancing access to and use of information and data to support all areas of the organisation, including research and teaching. Enabling the collation, preservation, management, sharing, and use of information and data to inform decision making.







110 | Information management and use



## Information management and use

Practices and procedures around collecting, organising, storing and sharing information in a way that allows for efficient retrieval and use. This includes information created by the organisation as well as that provided by third parties.

## 52 Strategic approach to information management

#### Key framework areas:

Library and learning resources | Information literacy | Management information | Information strategy | Digital information | Collection management | Digital preservation

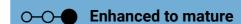
#### Select maturity level:



- The organisation has a plan to produce a digital information strategy and develop protocols for effective information management.
- Some digital information management strategies, policies and protocols are in place, but with limited infrastructure and support for effective digital information use.
- Basic policies support digital information management, primarily focused on digital data privacy, security regulations and intellectual property rights.



- A cohesive digital information strategy has been developed, with clear goals and objectives for improving digital information quality, accessibility and use across the organisation.
- Digital information management strategies, policies and protocols are ensuring a comprehensive approach and improved systems.
- Policies support a broad range of digital information management activities, including data governance, data quality, information sharing and open access principles.



- The digital information strategy focuses on continuous innovation and improvement to drive information-driven decision making and organisational success.
- Digital information management is a core component of all business operations. Appropriate technologies and practices support a seamless, integrated digital information ecosystem.
- A comprehensive set of policies addresses all aspects of digital information management including data governance, data quality, information sharing, open access and data-driven decision making.





112 | Information management and use

## 53 Systems to support information management

#### **Key framework areas:**

Information storage and retrieval | Collection management | Digital preservation

#### Select maturity level:



 Infrastructure for digital information management includes basic storage solutions, essential software and minimal cyber security measures.



 Infrastructure exists to support more robust digital information management, including improved storage solutions, advanced data processing tools and data analytics platforms.

## ○—○— Enhanced to mature

 Infrastructure includes the most appropriate technologies and seamless integration of digital information management tools and platforms across all aspects of the organisation. Robust criteria exist for assessing platforms offered by specialist library vendors.

## 54 Information management skills and expertise

#### Key framework areas:

Digital capability | Staff development | Information literacy

#### Select maturity level:



- The organisation offers little or only sporadic training, and minimal support or guidance, for staff and students to develop their digital information management skills. Departments have no shared understanding of the value of a strategic, coordinated approach.
- Information literacy sessions are offered to students as part of library induction activities and these are refreshed a few times over the course of their studies. Stakeholders outside the library don't fully understand the concept of digital information literacy and its importance to overall digital capability.
- Staff are offered limited information literacy support on request.

## ○---- Established to enhanced

- Ongoing training and support are offered to staff and students to develop their digital information management skills, including workshops, resources and access to help from dedicated personnel.
- The importance of information and research literacy is recognised. Targeted training, support and guidance are offered to research students and staff.
- Library and information specialists provide extensive web-based support, guidance and online tutorials to augment limited in person sessions.

## ○-○- Enhanced to mature

- Staff and students are not only proficient in digital information management; they actively
  contribute to the development and improvement of digital information management strategies,
  policies and practices.
- Library and information specialists work with curriculum teams to embed information and research literacy into all courses, to support critical reflection, relevant situated practice and to enhance digital learning capabilities.
- Digital information literacy is acknowledged as a critical capability for all stakeholders and is included in an overall digital capability plan for all staff and students.





114 | Information management and use Information management an

## 55 Digital library and archival collections

#### **Key framework areas:**

Information storage and retrieval | Collection management | Digital preservation

#### Select maturity level:



- The concept of data ownership/curators is understood and partially implemented (global ownership) to support research and digital scholarship.
- There is a good understanding of the scope and breadth of collections needed to support curriculum and research requirements.
- Digital cataloguing is consistent, using recognised standards.

## 

- Role-based data owners/curators support research and digital scholarship. Systems and processes
  exist to support evidence-based decision making approaches to collection management.
- Consistent, structured digital cataloguing supports systems interoperability and collections discovery.
- Development of open resources and publications is supported.

## ○—○— Enhanced to mature

- Individual data owners/curators and robust succession plans exist to support research and digital scholarship.
- Evidence-based approaches to decision making around collection management have been established (eg analytics and usage stats) to guide acquisitions and collection development.
- Systems to support collection management are joined-up and integrated. Adoption of a linked data and/or an entity relationship-based approach helps to create data with real value that can easily be discovered, accessed and repurposed for teaching and research purposes.
- Development of open resources and publications is supported and encouraged including digitisation of organisational collections.
- Library and information specialists work closely with faculty to embed digital resources in courses and research, including content created by the organisation. Use of digital collections is tracked and measured for impact.

## 56 Digital transformation of library and information services

#### Key framework areas:

Library and learning resources

#### Select maturity level:



- The library service has an established digital infrastructure to support learning, teaching and
  research functions. These include digital catalogues, integrated library management system,
  access to e-books, e-journals, databases and citation services, library website or portal.
  Information literacy training and inductions are available for new staff and students at varying
  levels throughout their course.
- · Policies and procedures are available around data privacy, security and intellectual property rights.
- The quality of data being fed into library systems from wider organisational systems is inconsistent and data is sometimes inaccurate.

## O-O-O Established to enhanced

- In addition to standard academic library services a digital repository provides access to research
  outputs (theses, dissertations and scholarly publications). Enhanced digital resource discovery
  tools are available to support users, such as federated search, virtual reference services or
  chat help.
- Library and information specialists use digital learning platforms, multimedia resources and online tutorials to support information literacy and research skills development.
- Library systems and services are integrated into LMSs and/or VLEs to provide seamless access to digital resources and services.
- Library and information specialists work closely with academic departments and research centres to support digital scholarship, collection management and data management services.
- Improvements in wider data collection and management means that data fed into library systems is generally high quality and accurate.





116 | Information management and use

## **○**—**○**— **Enhanced to mature**

• The library service is a leader in digital innovation within the sector and is a critical part of the organisation's digital transformation strategy. A comprehensive digital library strategy aligns with strategic goals and other digital strategies.

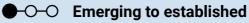
- In addition to high quality academic library services, the library supports advanced data services including curation, visualisation and data analysis support.
- · High-quality digital preservation and archiving services ensure long-term access to digital assets.
- Open access initiatives are supported and led, including open educational resources (OERs) and open research data.
- Emerging technologies are implemented or piloted to facilitate new forms of research and teaching (eg 3D printing, virtual reality, AI).
- A high level of engagement with all stakeholders and partners exists to identify current and future user needs, to share best practices and to encourage ongoing development in digital librarianship across the sector.
- An effective data architecture results in library systems being seamlessly integrated with quality data being exchanged both ways.

## 57 Recruitment and retention of specialist library and information staff

#### Key framework areas:

Library and learning resources | Digital capability | Staff development | Information literacy

#### Select maturity level:



 The organisation recognises the importance of employing qualified library and information specialists. Some effective recruitment and retention procedures are in place. Attracting and retaining highly qualified professionals may be hampered due to lack of resources or opportunities to influence strategy and/or decision making.



The organisation acknowledges the importance of recruiting and retaining highly skilled library
and information specialists. Attractive benefits and conditions are offered to attract and retain
staff, such as flexible working, competitive salaries and other benefits. The highly specialised
skills and expertise are valued across the organisation.

## ○-○- Enhanced to mature

- The organisation recognises the value that highly skilled library and information specialists
  can offer to strategic digital transformation and takes a strategic and innovative approach to
  recruitment, retention and development to attract and retain the best quality staff.
- Senior library and information specialists are actively involved in setting organisational strategy and policy and they influence innovation in information management, teaching and research.
- Library and information specialists contribute expertise to groups and communities in professional bodies such as the Chartered Institute of Library and Information Professionals (CILIP) and Society of College, National and University Libraries (SCONUL).





118 | Information management and use

## 58 Development and training of specialist library and information staff

#### **Key framework areas:**

Library and learning resources | Staff development

#### Select maturity level:



 The organisation is investing in training and development opportunities to help library and information specialists acquire new skills and stay up to date with the latest trends and technologies.



 There is significant investment in training to support library and information specialists' ongoing development. Opportunities for further specialist certification are offered.

## O-O- Enhanced to mature

 The organisation is investing consistently in the development and wellbeing of their library and information specialists, and they have created a culture that supports professional growth and advancement. Library and information specialists are working closely with leadership and other appropriate teams to inform decision making, curriculum design and research activities.

## 59 Partnership approaches to library and information strategies

#### **Key framework areas:**

Library and learning resources | Partnerships

#### Select maturity level:



- Partnerships have been developed with other institutions and external organisations to support the provision of academic library and information services.
- Collaborations include sharing resources and expertise, joint purchasing agreements and participating in consortia. Partnerships with technology vendors support the implementation and maintenance of digital library systems.



- Robust partnerships exist with a range of external and internal stakeholders to support the provision of academic library and information services.
- Collaborations may include joint research projects, shared staff positions or joint educational
  programmes. Library and information specialists and research teams engage with digital
  library and research initiatives to explore innovative approaches to library and information
  service provision, such as open access publishing and digitisation projects.

## ○—○— Enhanced to mature

- Partnership approaches are incorporated into the library and information strategy. Strong, strategic partnerships have been established with a range of stakeholders including academic departments, other institutions, community organisations and technology vendors.
- There is a focus on creating an integrated digital library ecosystem that provides seamless
  access to a wide range of resources and services, both within and beyond the organisation.
  The organisation is also actively involved in developing and promoting innovative approaches
  to digital library service provision, such as open access initiatives.





120 | Data management and use



## **Data management and use**

Practices and procedures around collecting, organising, storing and sharing data in a way that allows for efficient analysis and use that supports a data-enabled organisation. This includes ethical use, quality, governance, standards, security and compliance around all forms of data.

## 60 Strategic approach to digital data management and use

#### **Key framework areas:**

Data strategy | Data analytics | Data architecture | Data literacy | Data privacy |
Data ethics | Data quality | Cyber security | Compliance | Enterprise architecture |
Ethics

#### Select maturity level:



- The organisation recognises the importance of taking a strategic approach to digital data to support organisational objectives and inform data-driven decision making.
- Data gathering, storage, management and analysis is fragmented across the organisation, resulting in multiple versions of the truth, which are not trusted when transferred across systems.
- Improvements to data governance are being implemented to ensure data privacy, security and compliance with regulations.



- A strategic approach to digital data is being developed (or incorporated into a wider digital transformation or wider data strategy). Stakeholders are developing a shared understanding around how a data strategy will contribute to organisational missions and aims.
- Data-driven decision making is being supported by the development of a data architecture that integrates fragmented systems.
- A centralised data management system is being developed and data quality is being assessed and improved.
- Data governance policies and procedures have been implemented.





122 | Data management and use

## ○—○— Enhanced to mature

• Strategies for digital data have been agreed and effective collection, management and use of digital data is integrated into all strategies.

- Data-driven decision making is established across all functions. A comprehensive data architecture (aligned and integrated with the Enterprise Architecture [EA]) ensures centralised data storage, seamless integration and efficient data management.
- Data analytics is supported by advanced techniques (such as AI) to derive actionable insights.
- A comprehensive data governance framework is in place with clear policies, procedures and roles for data privacy, ethics, security and regulatory compliance.
- Staff have strong data analysis and interpretation skills. They are empowered to make data-driven decisions in their respective roles.
- The digital data strategy is regularly reviewed, updated and optimised based on feedback from stakeholders and evolving needs, ensuring the organisation remains agile and responsive to changes in the higher education landscape.

# 61 Data on specific groups of students for data requirement mapping

#### **Key framework areas:**

Data architecture | Data quality

Select maturity level:



 The organisation carries out only limited data requirement mapping for student data, which is stored in disparate systems and spreadsheets. Some ad hoc data mapping is done and lack of integration results in inaccuracies and incomplete data.



Data requirement mapping is seen as important, and the organisation is developing a
systematic approach to managing student data. A centralised student data storage and
management system is being developed to streamline data integration and improve data
quality. Student data mappings are becoming more comprehensive, informative and reliable.

## O-O- Enhanced to mature

Student data requirement mapping is an integral part of data management practices across
the organisation. Data quality, consistency and accuracy have high priority and a comprehensive
data architecture supports efficient and seamless student data management and use. Data
mappings are well documented and accurate, showing clear relationships between elements
across different systems and applications.





124 | Data management and use Data management and use | 125

### 62 Provision of a robust data architecture

#### **Key framework areas:**

Data architecture | Data quality

#### Select maturity level:



#### **●**-○-○ Emerging to established

- · Source data is compiled on an ad hoc basis, resulting in questionable quality and comparability. Localised data sources are held within departments that are not accessible to all staff and they are not trusted across the institution, resulting in multiple, conflicting versions of the truth.
- · Issues around data governance make it challenging to comply with relevant regulations around data privacy and security.



#### O-O Established to enhanced

- · Data feeds are taken from good quality sources at regular intervals. Comparability is ensured to a high degree. Visibility and sharing of data between departments is increasing trust due to consistency and transparency of data gathering processes. A centralised data management system is being established.
- · Data privacy and security mechanisms allow for effective compliance with relevant regulations (eg GDPR).



#### ○—○— Enhanced to mature

- · An enterprise-wide business intelligence system is used to ensure quality-assured internal and external data, which is maintained as a central institutional resource. The organisation has an integrated and coordinated approach to data gathering and updating that promotes timely and consistent data - 'one version of the truth' that is trusted across the organisation. Adherence to data standards ensures comparability and stability over time.
- · Policies and procedures for data governance ensure data privacy, security and compliance with all relevant regulations.

## 63 Recruitment and retention of specialist data professionals

#### **Key framework areas:**

Digital capability | Staff development

#### Select maturity level:



### ●──── Emerging to established

• The organisation recognises the importance of having qualified data specialists. Some effective recruitment and retention procedures are in place. Attracting and retaining highly qualified professionals may be hampered due to lack of resources or opportunities to influence strategy and/or decision making.



#### 

· The organisation acknowledges the importance of recruiting and retaining highly skilled data specialists. Benefits and conditions are offered to attract and retain staff - such as flexible working, recognition programmes, competitive salaries. The highly specialised skills and expertise are valued across the organisation.



#### ○—○— Enhanced to mature

• The organisation recognises the value that highly skilled data specialists can offer to strategic digital transformation and takes a strategic and innovative approach to recruitment, retention and development to attract and retain the best quality staff. Retention efforts include competitive compensation and benefits packages, a culture of innovation and continuous learning, and opportunities for leadership roles and thought leadership within the industry.





126 | Data management and use

## 64 Developing appropriate data skills of staff

#### **Key framework areas:**

Digital capability | Data literacy | Staff development

#### Select maturity level:



- Developing the digital data capabilities of existing staff is done in an ad hoc way and occurs in pockets across the organisation, dependent on staff roles. Staff are reluctant to embrace data-driven approaches.
- Low levels of data literacy among staff have been recognised, so development and training opportunities are planned.



- There is commitment to upskilling all staff with basic data literacy skills. Professional role
  profiles are used to identify the different levels of capability needed for similar roles across the
  organisation.
- Appropriate levels of staff development opportunities and support are available for all staff to
  enhance data analysis and interpretation skills. Staff training is offered around data security,
  analysis and interpretation. Senior leaders are provided with specialised training to build digital
  data literacy and support data-driven decision making.

## ○—○— Enhanced to mature

- All staff have a solid understanding of basic data literacy for personal and work purposes and
  they can provide support to other colleagues or students as necessary. A cross-functional team
  of specialist data staff collaborates with staff across the organisation to identify opportunities
  to use data to drive innovation and inform decision making.
- Data literacy is seen as a critical element of a digital capability plan for all staff. Staff with high levels of data literacy act as data literacy champions within the organisation.
- Training and development programmes are regularly updated to keep pace with evolving data needs and technological advancements.

## 65 Developing data literacy of students

#### **Key framework areas:**

Digital capability | Data literacy | Student learning

#### Select maturity level:



• Data literacy is an inherent part of some courses but there is no coherent strategy to support the development of data skills for all students.



 Separate data literacy courses are offered for students outside their formal courses and guidance, and online tutorials are available on the website.



• Data literacy is seen as a critical element of a digital capability plan for all students. Data literacy is embedded into all courses as appropriate to the subject.





128 | Business intelligence (BI)

Business intelligence (BI)



## **Business intelligence (BI)**

The collection, management and use of data and information to inform business decisions and strategies. It comprises the strategies and technologies used by enterprises for data analysis and management of business information.

## 66 Strategic and integrated approach to the collection and management of corporate data, the use of reporting across the organisation and the coordination of data provision

#### Key framework areas:

Digital leadership | BI Strategy Reporting | Management information | Horizon scanning | Market intelligence | Forecasting | Ethical systems and processes | Sharing | Openness and transparency | Business continuity planning | Baselining | Benchmarking

### Select maturity level:



- Basic BI capabilities enable the generation of standard reports such as student enrolment, staff workload and financial statements.
- Data analysis is mostly descriptive, providing simple summaries and visualisations of the available data. Reports are often created using spreadsheets or simple BI tools that are used primarily by departmental staff.
- There is limited integration between different systems, and data is often stored in separate silos, making it difficult to gain a comprehensive view of the organisation's operations.



 Data from a variety of sources is integrated. These include student information systems, learning management systems, financial systems and research management systems. The organisation holds data in a centralised data store and uses specialist BI tools to analyse it and generate insights. There is a greater emphasis on data governance, data quality and security, and data is shared across departments to support decision making at a higher level.

## O-O- Enhanced to mature

- A culture of data-driven decision making sees BI as a strategic asset to support organisational strategy and goals. The digital information strategy and digital data strategy are aligned to support BI.
- Advanced analytics techniques, such as predictive and prescriptive analytics, provide decisionsupporting insights from data. Data is used to identify trends, predict student outcomes and optimise resources and services.
- Data insights and decision-making processes are shared with stakeholders, promoting transparency and fostering a sense of shared ownership in the organisation's success, as well as potentially supporting external stakeholders and partners.





130 | Decision making Decision making | 131



## **Decision making**

Evaluating evidence and business intelligence to identify options and make choices about all aspects of business, including investment and planning to achieve strategic goals.

## 67 Digital evidence to inform decision making and in support of quality/compliance

#### **Key framework areas:**

Digital leadership | Digital vision | Digital fluency | Digital confidence | Digital evidence | Problem solving

#### Select maturity level:



### ●──── Emerging to established

· The organisation recognises the importance of digital information and data to inform decision making, but there is limited capacity to collect and analyse it. Lack of integration between systems and data analysis results in primarily descriptive rather than predictive analysis. Decision making is largely based on intuition and experience rather than on data-driven insights.



#### O-O Established to enhanced

- · Digital information and data from various sources are being integrated and advanced analytics capabilities are established. Data is held in a centralised data store, and advanced BI tools are used to generate insights and visualisations.
- · Decision making is increasingly data driven, and there is a growing culture of experimentation and innovation. However, there may still be silos between different departments or areas of the organisation, limiting the ability to gain a comprehensive view of organisation-wide operations.

#### ○—○— Enhanced to mature

- · Digital information and data are seen as a strategic asset to support decision making at the highest levels of the organisation. Investment in infrastructure support data-driven approaches, and staff recruitment and development prioritise digitally informed decision-making capabilities for senior leaders.
- · Advanced analytics capabilities are being used, including predictive analytics and machine learning, to drive innovation, improve student outcomes and achieve strategic goals. There is a culture of data-driven decision making, and the organisation is constantly seeking new sources of digital information, data and insights to inform its operations and strategy. Horizon scanning activities feed into decision making and planning.





## 68 Informed decision making and leadership

### **Key framework areas:**

Digital leadership | Digital confidence

#### Select maturity level:

## **●**─○─○ Emerging to established

Senior leaders and governors receive digital information and data from various sources, in an
ad hoc way or by request to specific teams. Planning and decision making around digital
transformation is informed in a piecemeal way by horizon scanning activities, departmental
information, individual contributions and disparate, fragmented data.

## 

• Senior leaders and governors are aware of the importance of digital leadership and supported to develop appropriate capabilities for making informed decisions. They use digital tools, information and data to inform decisions on all aspects of university business.

## **○**—**○**— Enhanced to mature

Decision making reflects organisational values and goals. Senior leaders and governors are
confident about using digital tools, systems, information and data to inform their decision
making. Digital staff and student champions across the organisation feed into strategic
decision making and a culture of partnership and co-design means that all stakeholders are
given opportunities to feed into strategic planning and decisions that affect their working or
learning experiences.



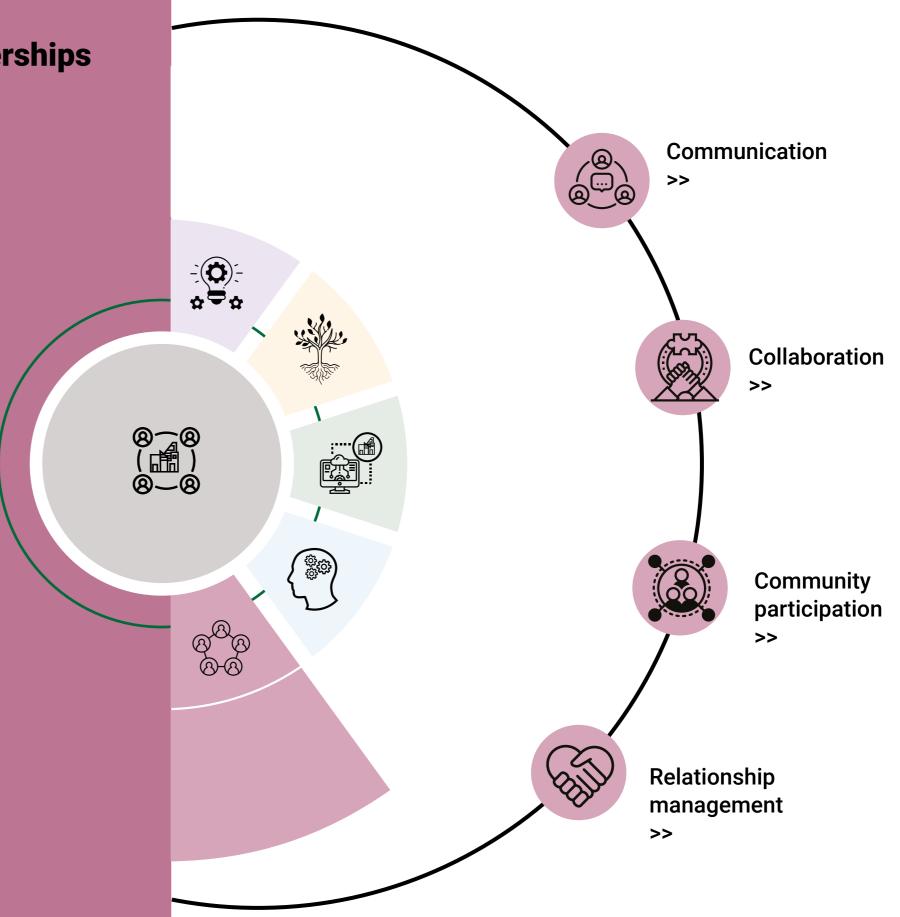


134 | Knowledge exchange and partnerships | 135



## **Knowledge exchange and partnerships**

Enhancing knowledge exchange to communicate and disseminate key organisational messages, and encourage collaboration and community participation of all partners/stakeholders.







136 | Communication



## **Communication**

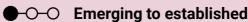
How the organisation uses digital technology and networks to enhance and support communication between stakeholders, as well as disseminating key messages outside the organisation.

## 69 Strategic approach to digital communication

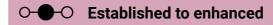
#### Key framework areas:

Digital communication | Digital networks | Accessibility and inclusion | Digital media | Digital etiquette | Social networking | Organisational communication

#### Select maturity level:



- A digital communications policy is being established in the organisation and various digital communication channels are in use to ensure a consistent, accessible presence.
- · Widespread consultation with stakeholders feeds into organisational communication policy.
- Basic security measures and privacy practices ensure compliance with data protection regulations around digital communications.
- There is some limited tailoring of digital communication to different audience groups.



- A digital communications policy is in place with a focus on engaging with different audiences and optimising content for better visibility.
- A range of digital channels is used for engagement as well as responsive communications with learners, employers, research partners and knowledge exchange partners in industry, etc.
- All stakeholders can find appropriate channels for communication to fit their needs and the organisation's policy is supportive rather than restrictive.
- Implementation of robust security measures and privacy practices are in place to protect users' personal information.
- Digital communication strategies are tailored to address the specific interests and requirements of different audience groups.





138 | Communication | 139

## **○**—**○ Enhanced to mature**

• A cohesive and integrated approach to digital communication exists, which effectively aligns and synchronises efforts across all departments and teams within the organisation.

- Digital communication systems, policies and practice ensure a seamless and engaging experience for its audience and enhance the organisation's reputation for teaching and research. Stakeholders engage confidently and ethically in professional and scholarly networks.
- Regular audits and updates to security systems and protocols ensure robust data protection and privacy measures.
- The organisation uses digital tools to personalise and refine its communications with learners and other key stakeholders.
- Data analytics and user behaviour insights are used to deliver highly tailored, personalised digital communication experiences across all channels.
- Analytics tools track the effectiveness of digital communication efforts, monitor user behaviour and refine strategies accordingly.



## 70 Digital media production and dissemination

#### Key framework areas:

Digital media | Social networking | Organisational communication

#### Select maturity level:

## ●─── Emerging to established

- A comprehensive website acts as the foundational communication channel with external stakeholders, including information about the university, courses, departments, research, events, news and contact details. It offers an elementary portal for staff and students to access a range of targeted content to support work and learning.
- The organisation has a presence on selected social media platforms, primarily sharing news and updates with minimal engagement.
- Some multimedia content, such as images or videos, supports communication efforts.

## ○---○ Established to enhanced

- A comprehensive website is responsive and mobile-friendly, providing an improved user experience for staff, students and external stakeholders.
- A presence on multiple social media platforms ensures increased engagement through sharing of news, events, research updates and success stories.
- Multimedia content, such as images, videos, and infographics, are used regularly to enhance communication efforts.
- Basic SEO practices increase the visibility of the organisation's digital content.

## **○**—**○**— **Enhanced to mature**

- A comprehensive website offers personalised content, interactive features and seamless navigation, giving all stakeholders an exceptional user experience.
- A strong presence is evident on multiple social media platforms, with regular monitoring and analysis of performance metrics to inform future strategies.
- Extensive use is made of multimedia content, including videos, podcasts and interactive
  experiences, to communicate organisational values, research and achievements effectively.
- Advanced SEO practices are in place and digital content is optimised for maximum visibility and reach.



140 | Communication Communication | 141

## 71 Equitable and inclusive digital communication and networks

#### **Key framework areas:**

Digital media | Digital etiquette | Accessibility and inclusion

#### Select maturity level:



#### ●──── Emerging to established

- · Equitable and inclusive digital communication and networks are recognised as important in strategic documents. However, there's limited understanding about the issues affecting the diverse range of stakeholders and how to address these.
- · Compliance with UK regulations is the main focus. Some individuals and departments champion improvements in digital communication to provide a more inclusive experience for students (eg guidance and support around digital etiquette).

#### O-O Established to enhanced

- · The organisation has a comprehensive approach to digital communication and networks, ensuring equitable and inclusive experiences for all staff and students.
- · Digital communication skills are addressed as an important part of organisational digital capability plans. Accessibility tools and assistive technologies are offered to support digital communication opportunities for staff and students as appropriate.
- · Guidelines and policies around digital communication are available and referred to in staff and student inductions.
- · Staff are encouraged to go beyond compliance with regulations around digital media and strive towards greater equity and inclusivity in all digital communications.

#### ○—○— Enhanced to mature

- A culture of equity and inclusivity permeates all aspects of digital communication and networks. Staff and students are empowered to engage actively in co-creating digital tools and resources that meet their diverse needs and they contribute to digital communication policies and guidance.
- The organisation actively collaborates with other institutions and organisations to drive positive change in digital communication practices across the sector.
- · All digital media and communication channels comply with UK regulations and staff are given time, training and support to provide alternative mechanisms for students who need messages conveyed in different ways or who need additional ways to participate.

## 72 Enable recruitment, development and retention of staff with digital media skills and expertise

#### **Key framework areas:**

Digital media | Staff development

#### Select maturity level:



#### ●──── Emerging to established

• The organisation recognises the importance of having qualified digital media specialists. Some effective recruitment and retention procedures are in place. Attracting and retaining highly qualified professionals may be hampered by lack of resources or opportunities to influence strategy and/or decision making.

#### O-O Established to enhanced

· The organisation acknowledges the importance of recruiting and retaining skilled digital media specialists. Various benefits and conditions are offered to attract and retain staff, such as flexible working, recognition programmes competitive salaries and valuable benefits. The highly specialised skills and expertise are valued across the organisation.

#### ○—○— Enhanced to mature

• The organisation recognises the value that skilled digital media specialists can offer to strategic digital transformation and takes a strategic and innovative approach to recruitment, retention and development to attract and retain the best quality staff. Retention efforts include competitive compensation and benefits packages, a culture of innovation and continuous learning, and opportunities for leadership roles and thought leadership within the industry.





142 | Collaboration Collaboration | 143



## **Collaboration**

How the organisation uses digital technology to help stakeholders work with others to achieve specific goals. This includes supportive, secure and inclusive working and learning practices.

## 73 Culture of digital collaboration

#### **Key framework areas:**

Staff development | Student collaboration | Digital collaboration | Accessibility and inclusion

#### Select maturity level:



### ●─── Emerging to established

- · A culture of digital collaboration is encouraged in some departments but there is no coherent strategic approach or understanding of the risks and benefits of digital collaboration.
- The organisation's staff and students use a range of digital tools and services to collaborate on and off campus. Digital and physical infrastructure supports digital communication and document sharing. Data privacy and security measures have been established to minimise unsecure sharing and collaborative practices.
- · Staff use collaboration tools as required for their job roles, and training and support on specific tools are available.
- · Students are expected to collaborate during course activities but are not always aware of the benefits and do not have a clear understanding of the ways that digital tools can support group work.
- Students are not given opportunities to opt out of (or provided with alternatives to) face to face collaboration if they find this challenging due to disabilities, their mental health, anxiety issues or neurodivergence.

### 

- Digital collaboration is included in an organisation-wide digital transformation strategy
- · Digital and physical infrastructure developments across the organisation (eg cloud-based platforms, networks and communication systems, privacy and security, data analytics) have extended the range of secure and reliable digital tools and spaces for collaboration to enable people on and off campus to work together.
- · Digital collaboration has been identified as an important aspect of an organisation-wide digital capability plan for leaders, staff and students.
- · Curriculum development and digital teaching incorporate digital collaboration as appropriate with attention to diverse needs and different learners. Digital tools and approaches are used to make collaboration easier for some individuals.





144 | Collaboration Collaboration

## ○—○— Enhanced to mature

 A mature digital strategy and a well-developed digital infrastructure support effective digital collaboration for all stakeholders. Cross-organisational collaboration supports digital leadership and fertilisation of shared practice and ideas.

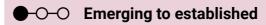
- A strategic commitment and approach to data privacy and security supports a culture of continuous improvement, with regular evaluations and adjustments to ensure digital tools and platforms remain effective.
- Staff and students have a clear understanding of the benefits and risks around digital collaboration, and they are confident and capable in using digital tools, networks and services safely to support their work and learning needs. They have a good understanding of inclusive design and participation. Regular development and updating opportunities are available to all staff.
- Students can co-design collaborative learning activities.
- External collaboration with partners in research and learning is well established, fostering knowledge exchange and shared innovation.
- The organisation fosters a culture of innovation in digital collaboration, supporting research and development internally and externally.

# 74 Open practices to support knowledge sharing and exchange

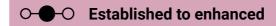
#### **Key framework areas:**

Community collaboration | International activities | Open sharing

#### Select maturity level:



- Basic steps have been taken to promote open knowledge and the institution wants to integrate it into culture and practices.
- An open access policy exists through the collaborative efforts of interested senior leaders, research teams, library and information specialists, academic departments, teachers, IT teams and students. However, implementation and awareness across the whole organisation are low.
- A few individuals use and/or develop open educational resources (OERs).
- Some ad hoc collaboration with industry and other institutions takes place at local, national or international levels.



- Significant progress has been made to promote open knowledge exchange through coordinated collaborative initiatives and awareness-raising among stakeholders.
- A well-defined open access policy has led to increased adoption of open practices by researchers and faculty.
- The organisation encourages the use of open educational resources and staff receive training and support around OER creation, licensing and making these discoverable.
- Open knowledge events are encouraged and staff participate in interdisciplinary open research collaborations.





### ○-○- Enhanced to mature

- Open knowledge exchange is an important principle integrated into strategic goals, and a culture of openness and collaboration is fostered across the organisation.
- A comprehensive and widely adopted open access policy has strong institutional support.
- Widespread use and development of OERs benefits students, enhances knowledge sharing and raises the reputation of the organisation and of individual staff members.
- Organisational digital content outputs (eg digitised unique and distinctive collections, research outputs, open monographs) are released openly and embedded in collaborative and widening participation activities.
- The organisation has strong partnerships with industry, other institutions and open source communities, promoting innovation and collaboration.





148 | Community participation Community participation



## **Community participation**

Encouraging stakeholders to engage with, and participate in, decision-making processes that affect them. Enabling and supporting stakeholders to participate in wider community activities. Ensuring equitable and inclusive experiences of digital participation.

## 75 Supporting digital participation of all stakeholders

#### **Key framework areas:**

Digital participation | Sense of belonging | Accessibility and inclusion

#### Select maturity level:



- Some systems, services and approaches support digital participation but this is dependent on the culture and practices of individual departments and faculty.
- Accessibility standards and regulations are met, but some digital platforms and content are
  not fully accessible for users with disabilities. Inclusivity considerations such as multi-language
  support, cultural sensitivity and digital poverty are minimal or inconsistent across platforms.
- Staff and students make use of the organisation's internal communication tools (email, shared calendars, shared drives etc) to work effectively in teams and project groups.
- Training and services to support digital participation focus on the use of specific tools and there
  is no widespread understanding around building confidence and capability to participate fully
  in work, personal or learning communities

## ○-O Established to enhanced

- Organisational missions and values acknowledge the importance of digital participation to enhance opportunities in work, learning and as a citizen.
- Stakeholders are supported to understand the benefits of digital participation and are given
  opportunities to identify and articulate their own challenges and needs to enable them to
  participate fully if they want to.
- The accessibility of digital platforms, networks and content is a key focus across the organisation as a more nuanced understanding of the diverse needs of stakeholders develops.
- Digital participation is seen as a key element of broad digital capabilities plans for leaders, staff and students.





150 | Community participation | 151

### ○—○— Enhanced to mature

A culture of inclusion and collaboration ensures that all stakeholders regularly engage in digital
participation across a range of different communities as appropriate (internal teams, research
and learning communities, external networks, professional communities etc).

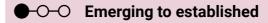
- Digital platforms and content are accessible to users with diverse user needs. Regular audits and improvements maintain high accessibility and inclusivity standards, and different user groups participate in strategic development around a range of services.
- Training and development around digital participation include broad aspects such as ethics, equity, digital wellbeing, cultural aspects, diversity and digital citizenship.
- Digital participation is embedded into curricula as appropriate for different subjects and professions. Students are given digital opportunities to participate in a range of university communities supporting a sense of belonging whether on or off campus.

## 76 Supporting knowledge exchange and wider digital collaboration

#### **Key framework areas:**

Local community | Regional growth | Building digital communities | International activities | Open sharing

#### Select maturity level:



- Knowledge exchange and digital collaboration outside the organisation are seen as important
  to broad missions and values but there is no comprehensive approach to fully integrate these
  goals into practices. There is no strategic plan and there are no dedicated resources to
  support community engagement and knowledge exchange activities.
- Research partnerships reflect individual faculty ambitions with little collaboration across
  different research areas. Partnerships with local industry and businesses are well established
  and supported by opportunities for digital participation. These often focus on one-time events
  or ad hoc projects. Wider national partnerships to increase knowledge exchange are led by
  individual departments, and digital networks support the expansion of this work.
- The organisation has an open access policy but offers limited institutional support for open access and open data initiatives with external partners.

### O-●-○ Established to enhanced

- Knowledge exchange and digital collaboration outside the organisation are included in all strategies. Stakeholders across the organisation have a shared understanding of the importance of wider knowledge sharing and they make efforts to incorporate this into their practice.
- Partnerships with other academic institutions, industry partners and government organisations
  are supported by digital participation opportunities across various research areas (eg joint
  research projects, shared resources and co-authored publications).
- A clearly articulated open access policy is widely communicated to researchers and faculty.
   Funding and infrastructure support for open access publishing and data sharing is provided to encourage greater adoption.
- Active engagement with local, regional, national and international communities is supported by capacity-building programmes, public outreach events and policy engagement initiatives.
   Digital participation opportunities support knowledge sharing, promote collaboration and address the needs and challenges faced by various communities.





### ○-○- Enhanced to mature

- Knowledge exchange and digital collaboration strategies are integrated into strategic goals and a culture of openness and partnership is fostered.
- There is a robust portfolio of research collaborations and partnerships with local, regional, national and international stakeholders. Partnerships involve multidisciplinary teams, largescale projects and long-term commitments that drive innovation and bring positive impact to various communities.
- An open access policy is fully integrated into the research culture, with strong institutional support for open access publishing and data sharing. Researchers and faculty are encouraged to share their work openly and there is a high level of compliance with open access requirements.
- A strategic approach to community engagement and knowledge exchange results in international partnerships, knowledge transfer activities and alignment with sustainable development goals for the sector and beyond.





**154** | Relationship management | **155** 



## **Relationship management**

Using digital technologies to build and maintain positive relationships with and between stakeholders to ensure engagement, feedback and involvement as partners. Includes working, learning and wider community relationships.

# 77 Consistent and coherent relationship management strategy

#### **Key framework areas:**

Partnerships | Customer relations | Stakeholder engagement | Local community | Business and industry | Employer relations | Human resources | International activities

#### Select maturity level:



- · Digital infrastructure supports relationship management through a variety of activities.
- A responsive, user-friendly website provides comprehensive information about the university, its programmes and services, with features like live chat support and online enquiry forms.
- Active use of social media platforms supports communication, sharing updates and engaging with the audience. Basic targeted online advertising is used to reach potential students.
- Various digital tools and networks support collaboration and communication between all stakeholders, such as a basic learning management system (LMS) platform, document-sharing platforms, and video conferencing tools.
- The organisation recognises the need for a single customer relations management (CRM) system to manage interactions with prospective and current students, alumni and partners, to track contact information and provide basic engagement metrics and to prevent multiple versions of the 'truth'.
- Ad hoc virtual events, webinars and workshops foster relationships with stakeholders and create networking opportunities.





### O-O Established to enhanced

- Secure, reliable digital technologies and networks support a comprehensive relationship management strategy.
- A robust CRM system is in development to manage interactions with prospective and current students, alumni and partners, enabling in-depth tracking and analysis of engagement metrics as well as event management and reporting capabilities.
- A robust LMS platform offers advanced features for interaction and collaboration between students and faculty, such as forums, resource sharing, progress tracking and integration with other digital tools.
- Strategic use of social media supports engagement and community building, with well-planned campaigns, audience segmentation and performance analysis to optimise outreach efforts.
- Mobile apps and digital platforms offer personalised support to students, enhancing communication and access to resources such as course schedules, campus maps and support services.
- Regular virtual events, webinars and workshops strengthen relationships with stakeholders, provide valuable information, build communities of practice and create networking opportunities.

### ○—○— Enhanced to mature

- Digital technologies and networks are central to the relationship management strategy and enable continual adaptation to emerging trends.
- Advanced data analytics and Al-driven insights identify trends, inform decision making and shape relationship-building initiatives, with real-time adjustments based on emerging patterns.
- Integration of AI, machine learning and other emerging technologies improve student support, personalise learning experiences and streamline administrative processes. Student-to-student relations feature as critical aspects of course design, including across faculties to support cross-disciplinary conversations and collaborations.
- Comprehensive online mentorship programmes connect students with alumni or industry professionals for guidance, networking, career planning and skills development.
- Highly engaged online alumni networks and communities facilitate ongoing support, collaboration and participation in university initiatives.
- Systematic collection and analysis of feedback from stakeholders through online surveys, social media and other digital channels contribute to continuous improvement and stronger relationships.



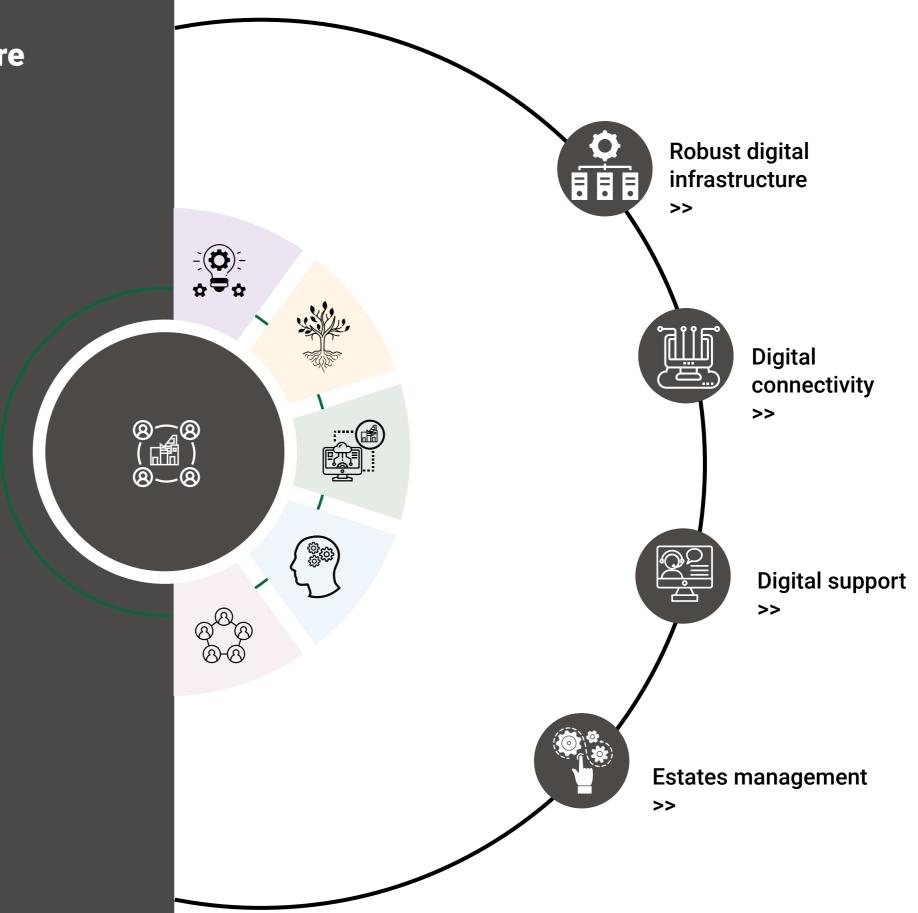


158 | Digital and physical infrastructure



## Digital and physical infrastructure

Providing robust and secure infrastructure through relevant expertise and vision, including appropriate investment in networks, systems, hardware, software and digitally-equipped physical spaces, and ensuring effective management and standards compliance.









## **Robust digital infrastructure**

Planning, investing and maintaining a comprehensive, secure and reliable system of technology and equipment that supports the efficient operation and growth of an organisation.

## 78 Trends and developments in technology and infrastructure

#### Key framework areas:

Horizon scanning | Sector intelligence | Local/regional/national contexts and intelligence | International activities

#### Select maturity level:



• Trends in technology are closely monitored as part of the organisation's broad horizon scanning activities. Enthusiastic individuals highlight and champion specific technologies. Technologies are sometimes adopted on an ad hoc basis without approval or strategic direction.



 A coordinated approach to horizon scanning identifies trends in technology and how they relate to the HE sector.



Expert teams are allocated to horizon scanning around technological developments for each core
area of business, and they come together to inform senior leaders. Local and regional partners
feed into trends analysis around future needs and the international picture is also considered.





## 79 Informed strategic planning for digital infrastructure

#### **Key framework areas:**

Digital strategy | IT strategy | Corporate strategy | Governance

#### Select maturity level:



- Strategic planning for technology is largely reactive with a focus on adapting to changes as they occur, rather than proactively shaping the future.
- Existing digital infrastructure capabilities are assessed regularly to identify limitations in terms of reliability, scalability and best practice.



- Strategic planning around technology incorporates trend analysis and foresight activities, with an emphasis on anticipating and preparing for future challenges and opportunities.
- Reliable, scalable infrastructure is secured, partially leveraging best practice and cloud platforms for high priority and important digital workloads.

## ○—○— Enhanced to mature

- Strategic planning for technology goes beyond merely responding to trends. All technology investments align with broad strategic priorities, considering anticipated benefits, opportunities and risks.
- The organisation contributes towards actively shaping the future through innovation, collaboration and leadership in higher education.

## 80 Coherent and flexible digital strategy

#### **Key framework areas:**

Digital strategy | IT strategy | Corporate strategy | Governance | Stakeholder engagement | Digital leadership

#### Select maturity level:



A comprehensive IT strategy focuses on supporting existing functions and infrastructure. The
focus is on maintaining the current state of IT infrastructure and addressing IT-specific challenges,
such as security and scalability. Digital initiatives across the organisation are often siloed and
there is little coordination with broader organisational goals.



- An organisation-wide digital strategy recognises the need to expand beyond IT functions and infrastructure. A governance structure to take forward the strategy includes representation from all stakeholders and a digital readiness assessment has been conducted to identify areas for improvement.
- Medium- and long-term digital investment planning supports wider digital transformation ambitions, such as new technology solutions, staff recruitment and training, data-led decision making and improved business processes. The potential benefits of digital transformation are being understood through stakeholder engagement and involvement.

## ○—○— Enhanced to mature

- A digital transformation strategy integrates with all other organisational strategies to align with broad organisational goals (or is incorporated within all existing strategies). A coordinated governance structure exists to oversee the implementation and ongoing evaluation of the strategy.
- Significant investments have been made in technology, infrastructure and people to support
  digital transformation, and a strong culture of innovation and collaboration is developing. The
  benefits of digital transformation are visible across the organisation, with improved staff and
  student experiences, research outcomes, administrative efficiencies, enterprise activities and
  stakeholder engagement. The organisation is continuously evaluating and refining its digital
  transformation strategy to stay ahead of emerging trends and ensure ongoing success.





# 81 Strategic investment in transformative digital, data, and technology

#### **Key framework areas:**

Investment | Application architecture

#### Select maturity level:



- The plan for technical and digital infrastructure investment reflects the IT strategy. Investment
  decisions are often led by the need to respond to current issues and challenges. Previous
  investment commitments around legacy and 'homegrown' solutions impede more innovative and
  longer-term planning. Investment decisions tend to be reactive and senior leaders may not
  have a clear understanding of how its investments will support long-term goals and sustainability.
- Investment and planning around digital infrastructure focus on provision of a digitally enabled campus, with an emphasis on ensuring a robust foundation. Investment prioritises the need to upgrade existing hardware, software and network systems and implement basic cyber security measures. There is investment in centralised support teams to address technical issues and support and train staff and students.

## O-O-C Established to enhanced

- A long-term investment strategy for technical and digital infrastructure exists. A proactive approach has been adopted to identify and mitigate risks, and data and analytics inform investment decisions. Long-term sustainability is incorporated into all investment decision making processes.
- Investment and planning around digital infrastructure reflect a desire to enhance teaching, learning and research. There is some investment in advanced technologies to support research education and innovation as appropriate (eg AI, machine learning, data analytics). Regular audits and advanced cyber security measures ensure data protection and regulatory compliance.

### ○—○— Enhanced to mature

- Investment strategies support long-term goals and ambitions. Investment planning is a strength
  within the organisation and a culture of innovation and sustainability is well established.
  Investment is appropriate based on informed decision making (not innovation for innovation's
  sake). The organisation is also actively seeking out new investment opportunities and
  approaches to support its long-term sustainability, such as multi-year and bundled services
  and discounts.
- Investment and planning around digital infrastructure are driving digital transformation across
  all aspects of university business. Appropriate technology investment supports innovative
  approaches to research and education and an innovation hub or centre fosters a culture of
  enterprise and interdisciplinary collaboration. Data analytics and AI inform decision making,
  optimise business operations and are impacting positively on student success. Investment in
  stakeholders' digital capabilities helps staff recruitment, development and retention, digital
  leadership, research, enterprise and learning outcomes.
- There is clear understanding about where in-house services deliver value and a critically aware
  'cloud first' approach to commodity services informs investment as appropriate. This either
  scales into, or completely relies on, multiple cloud data centres and/or geographic regions.
  This approach mitigates single points of failure and helps alleviate challenges with disaster
  recovery while strengthening business continuity.





## 82 Enterprise architecture framework and strategy

#### **Key framework areas:**

Business processes and operations | Enterprise architecture

#### Select maturity level:



The organisation manages IT systems and processes on an ad hoc basis, resulting in inefficiencies
and inconsistencies. Governance and decision making are both fragmented around IT
planning and management with minimal collaboration across departments. There is no overall
documentation of architecture components.



The importance of enterprise architecture is recognised and an Enterprise Architecture (EA)
team has been created to oversee the development and management of an EA framework.
Documented standards and processes exist and collaboration and communication between
departments has improved governance structures.



EA is fully integrated into the institution's strategic planning processes. The EA team actively
collaborates with other departments to innovate and drive strategic objectives. Continuous
improvement efforts are driven by performance metrics and a regular assessment and
improvement process. EA supports strong alignment between IT investments and strategic goals.

### 83 Ensuring reliable, safe and secure digital infrastructure

#### **Key framework areas:**

Security and business continuity | Enterprise architecture | Cyber security | Data creation and management | Data architecture | Data privacy

#### Select maturity level:



- · Digital infrastructure planning and decisions offer a basic level of safety, security and reliability.
- Digital infrastructure has been assessed to understand risks that could impact business continuity.
   Key digital infrastructure workloads have been prioritised to be more reliable and less likely to fail if disaster happens, leveraging cloud platforms where it makes sense.
- A robust network infrastructure offers high-speed connections, some redundancy measures and scalability. Secure and climate-controlled data centres are in operation.
- Comprehensive cyber security measures are in place, supported by staff and student education on cyber threats. Role-based access control systems are regularly reviewed and updated.
- A business continuity plan includes robust backup processes.
- There is a clear plan and procedures for real-time monitoring and incident response.

## O-O Established to enhanced

- Digital infrastructure planning, investment and decisions offer an optimised level of safety, security and reliability.
- Key workloads can withstand disaster using cloud platforms and their capabilities. Scaling to the cloud leverages decoupled platforms away from on-premise infrastructure.
- Robust network infrastructure offers high-speed connections, multiple layers of redundancy and excellent scalability (eg cloud services, 5G networks). Data centres and server rooms provide advanced security and redundancy measures.
- Leading-edge cyber security measures are being implemented, with ongoing staff and student education on cyber threats. Advanced access control systems are continually reviewed and updated.
- A business and continuity plan includes comprehensive backup processes and regular software patching and hardware updates.
- Advanced real-time monitoring and incident response capabilities are supported by a clear plan and rapid response procedures





## **○**—**○ Enhanced to mature**

• Digital infrastructure is a key component for driving innovation throughout the organisation, setting excellent standards for safety, security and reliability.

- There is a mature digital infrastructure that leverages cloud platforms where it makes sense.
   Infrastructure and workloads are reliable, scalable and secure. They are built through automation and governed by best practice.
- A highly available network infrastructure with ultra-high-speed connections, advanced redundancy solutions and scalability features is provided (eg edge computing and elastic load balancing). Data centres offer high level security, energy efficiency and redundancy measures.
- An in-house professional services team provides a range of sector-specific services based on intelligence from the Janet Network, to meet the challenges of the ever-changing cyber threat landscape.
- State-of-the-art cyber security technologies are in use, with a strong focus on staff and student education, as well as innovative cyber threat prevention and mitigation.
- The organisation uses sophisticated access control systems that leverage advanced technologies like AI and machine learning for continuous improvement and security.
   Comprehensive, multi-tiered backup and disaster recovery strategies ensure rapid, seamless recovery from any disruption.
- Pioneering real-time monitoring and incident response capabilities are in place, using advanced analytics and machine learning to proactively identify and resolve potential issues

## 84 Equitable and inclusive digital infrastructure

#### Key framework areas:

Stakeholder needs | Requirements gathering | Accessibility and inclusion | Digital poverty | Customer services

#### Select maturity level:



- The organisation is working to ensure that digital processes, systems and services do not create barriers to participation, learning or working.
- Staff and services respond on demand to the expressed digital and technology needs of individuals.
- The organisation gathers data on staff and students' digital access and use but there is no strategic approach to addressing any gaps that it identifies.
- There is a strong focus on ensuring that digital processes, systems and services are compliant with EU web accessibility regulations. The organisation responds to requests for assistive technologies in compliance with the Equality Act 2010.

## ○---- Established to enhanced

- There is an ongoing dialogue with stakeholders to evaluate and improve strategies to address
  digital disparities (eg around individual needs or capabilities, access to resources, networks
  and equipment).
- The organisation offers a range of targeted support to students, such as providing devices and connectivity for learners disadvantaged by digital or data poverty, offering digital skills training, and providing mentorship and support to underrepresented groups.
- Learners and/or staff are encouraged during induction to self-assess and identify digital devices, processes, systems or services as mechanisms for reducing barriers to learning/working.





## **○**—**○ Enhanced to mature**

• The organisation is actively working to dismantle structural barriers and create a safe and transparent digital environment for all students and staff.

- Equity and inclusion policies ensure that all stakeholders engage proactively in the design of the digital environment. The organisation makes sure staff have access to up-to-date devices, software and adaptations to fulfil their role.
- Students receive targeted support with digital technologies to improve their learning experience and ensure they are not using hardware or systems that are outdated and unsecure.
- Curriculum teams proactively embed accessible digital technologies into curriculum design and delivery based on their expert knowledge.



## 85 Sustainability and environmental impact of digital infrastructure

#### **Key framework areas:**

**Environmental sustainability** 

#### Select maturity level:



- The environmental impacts of digital technology are recognised in the organisation and some basic initiatives to address these issues are being established.
- Guidelines have been developed for responsible data management and storage to minimise energy consumption and carbon footprint.
- The organisation encourages use of virtual meetings and teleconferencing to reduce the need for travel and associated carbon emissions.
- Power-saving measures (like automatic sleep modes or power management software on devices and computers) have been implemented across the organisation.
- Staff and students are educated on the environmental impact of technologies through courses or workshops and encouraged to consider energy efficiency when using devices. E-waste collection points and recycling events are provided.

## ○- C Established to enhanced

- Comprehensive measures are in place to address the environmental impacts of digital technology.
- Campus-wide energy-efficient practices for digital devices have been implemented. These
  might include using energy-efficient hardware, optimising data centres and adopting advanced
  power management settings.
- E-waste management systems include regular collection, responsible recycling and promotion around repair and reuse of electronic devices.
- A sustainable procurement policy for digital technology prioritises energy-efficient devices and suppliers with strong environmental credentials.
- The environmental impacts of digital technology are embedded into relevant courses and curricula, and staff and students are encouraged to develop responsible digital practices.
- The organisation is carrying out interdisciplinary research on the environmental impacts of digital technology through collaboration with external organisations and experts in the field.

## ○—○— Enhanced to mature

 The organisation is a leader in addressing the environmental impacts of digital technology, demonstrating best practices and making a significant impact.

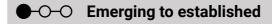
- Net zero energy consumption for digital technology is being pursued through advanced efficiency measures, renewable energy sources and innovative solutions.
- A zero-waste e-waste management system is in operation, with a strong focus on circular economy principles, such as repair, reuse and responsible recycling.
- Procurement practice encourages suppliers to improve their environmental performance and adopt innovative approaches in sustainable digital technology.
- The organisation is seen as a leader in education and training on the environmental impacts of digital technology. It is actively engaging with external stakeholders to share best practices and insights.
- The organisation leads on research into the environmental impacts of digital technology, driving innovations that contribute to global and local sustainability goals and influencing policy and industry practices.

## 86 Supply chain risk management

#### Key framework areas:

Security and business continuity | Cyber security

#### Select maturity level:



- Supply chain risk management is largely reactive, with some efforts to develop a comprehensive
  list of suppliers and contracts that is accessible to the appropriate people/departments. Not
  all appropriate supply chain systems are integrated, resulting in inefficient data use, difficulty
  tracking the overall supply chain risk position and assessing the impact of: security vulnerability
  disclosure, data, services and infrastructure at risk as a result of supply chain compromise.
- Contracts with suppliers include requirements for them to notify about vulnerabilities, incidents and compromises promptly.
- Service Level Agreements (SLAs) are in place with third-party vendors.

## 

- The organisation is making efforts to integrate digital systems and coordinate data to develop long-term effective governance of supply chain risk management. A strategic approach is being developed to manage dependencies proactively – prioritising data and security and controlling risks around procurement (eg improving processes, protocols and assessment of suppliers). Procurement contracts include requirements for suppliers to identify and report risks, vulnerabilities, incidents and compromises promptly.
- Governance and reporting mechanisms are being streamlined to ensure that different aspects
  of supply chain management are communicated and managed effectively (eg security,
  finance, contract management).

## ○—○— Enhanced to mature

- Supply chain risk management is integrated across the organisation through effective systems.
   The impacts of supply chain compromises, vulnerabilities, incidents and data theft can be understood quickly, and the impact on organisational systems and services determined.
- Supply chain risk management is integrated into appropriate strategies and operations across
  the organisation and is a primary term of reference in data and information security management.
  Proactive collaboration with suppliers during assessment and selection identifies and
  minimises potential risk and is incorporated into all contracts.
- Governance of supply chain management is coordinated across a range of organisational roles and committees to ensure that business continuity is maintained effectively across all areas of business



174 | Digital connectivity



## **Digital connectivity**

Ensuring secure and reliable connections between stakeholders, business processes and data and networks within the organisation, as well as facilitating connectivity with appropriate external networks.



87 Provision of reliable networks and connectivity

#### Select maturity level:



- Network reliability is prioritised, with redundancies in place to minimise downtime, and some cloud services have been adopted to handle increasing demands.
- Advanced security measures for networks are in place, such as intrusion detection and prevention systems, regular security audits and ongoing staff training on cyber security.
- The organisation takes measures to ensure secure connection with external networks. It has
  adopted a proactive approach to security and reliability, resulting in investment in monitoring
  tools, incident response planning and cloud-based solutions to enhance the digital environment.



- The organisation has a comprehensive and mature approach to ensuring secure and reliable digital connections and networks, with extensive use of cloud services for various applications, infrastructure and data storage needs.
- Security measures for cloud services incorporate advanced technologies such as artificial
  intelligence and machine learning for threat detection and response. Networks and cloud
  services are continuously monitored and assessed to identify and address vulnerabilities.
- Network and cloud service reliability are optimised, with a highly resilient infrastructure
  designed to ensure high availability and performance. There is a strong security culture,
  emphasising the importance of cyber security at all levels.



- The organisation ensures a highly available, performance secure and reliable digital environment through a combination of appropriate technologies, best practices and advanced cloud services.
- Collaboration with industry partners, researchers and other stakeholders informs exploration and implementation of new solutions for cyber security, network management and cloud services.
- Effective use of cloud services allows flexibility to scale and adapt the digital environment more effectively, focusing on continuous improvement, innovation and the integration of emerging technologies to meet present and anticipated future demands.





176 | Digital connectivity

## 88 Meeting connectivity needs of diverse stakeholders

#### **Key framework areas:**

Accessibility and inclusion | Digital poverty | Building digital communities

#### Select maturity level:



- Efforts have been made to identify and assess the connectivity needs of various learner groups, for example via surveys, focus groups and analysing data from learning analytics tools.
   Responses to expressed student needs and requirements include some tailored content, technologies and services.
- Some online and blended learning options are being offered to accommodate off-campus students, and accessible resources are being developed for learners with disabilities in accordance with regulatory requirements.
- Responses are often reactive and there is limited understanding around diverse needs relating
  to digital and data poverty, disabilities, neurodivergence, mental health, language and other
  social challenges.

## O Established to enhanced

- The organisation has developed a comprehensive approach to meeting the connectivity needs
  of diverse learners on and off campus. Robust processes exist for identifying and assessing
  the needs of different learner groups, including data-driven insights, regular dialogue and
  feedback from students and stakeholders.
- A wide range of online and blended learning options is available, along with specialist support services for remote learners.
- Inclusivity and accessibility are addressed in organisational values and strategies, ensuring that learning materials and digital platforms are designed with diverse needs in mind.
- Collaboration with a range of stakeholders, for example, industry partners and other institutions, focuses on continually improving and expanding services based on the identified needs of learners.

### ○-○- Enhanced to mature

- Advanced methodologies for identifying and assessing the connectivity needs of learners support regular dialogue and feedback opportunities, including artificial intelligence, machine learning and predictive analytics.
- Innovative teaching methods and technologies, such as adaptive learning systems, virtual and augmented reality, and Al-driven learning analytics, contribute towards a personalised, inclusive learning experience based on assessed needs.
- Students and other stakeholders are involved as active partners in shaping systems, services
  and content, fostering a culture of continuous improvement and innovation. A commitment to
  meeting the needs of diverse learners through systematic identification and assessment is a
  core component of the organisation's mission and value proposition.
- · Data confidentiality and integrity is ensured when all stakeholders access systems and services.





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## 89 Cyber security protections, accreditation, support and protocols

#### **Key framework areas:**

Cyber security

#### Select maturity level:



#### ●──── Emerging to established

- · Cyber security is recognised as important and basic security measures to protect digital assets, networks and users have been implemented. Cyber Essentials certification is in progress and basic security controls (including firewalls, antivirus software and access controls) are in place.
- · A designated team or individual is responsible for cyber security but cyber security awareness and culture among faculty, staff and students is limited. The focus is primarily on reactive measures, addressing cyber security incidents as they arise.

#### O-O Established to enhanced

- · A comprehensive and mature approach to cyber security is evident, with a strong focus on proactive measures and risk management. The institution adheres to recognised cyber security standards, such as ISO/IEC 27001 and Cyber Essentials, and has implemented robust security controls, including intrusion detection and prevention systems, encryption and multi-factor authentication (MFA).
- The organisation has a dedicated cyber security team with clearly defined roles and responsibilities. Regular training and awareness programmes are offered to staff and students.
- · Active network monitoring and regular security audits and assessments take place. The organisation has a well-defined incident response plan.

#### ○—○— Enhanced to mature

- · A robust cyber security culture emphasises the importance of cyber security at all levels. In addition to adhering to cyber security standards like ISO/IEC 27001, British Standard BS31111 for cyber risk and resilience. Maintaining Cyber Essentials certification is the foundation for a comprehensive cyber security strategy.
- · Appropriate technologies and advanced techniques protect digital assets, networks and users.
- · The organisation is seen as a thought leader in cyber security, contributing to the development of new standards, practices and technologies in higher education. It has been identified as an Academic Centre of Excellence in Cyber Security Education (ACE-CSE).
- An in-house professional services team provides a range of sector-specific services based on intelligence from the Janet Network to meet the challenges of the ever-changing cyber threat landscape. The team contributes to, and leads, networking and conference opportunities.
- · The organisation continuously adapts and improves cyber security measures based on evolving threats and technologies.
- It collaborates with industry partners, researchers and other stakeholders to explore and implement innovative cyber security solutions, such as artificial intelligence-driven threat detection and response systems (eg National Cyber Security Centre [NCSC]).





180 | Digital support



## **Digital support**

Resources, services and assistance provided to help stakeholders use digital technologies effectively for work, learning or research.

## 90 Recruitment and retention of specialist IT staff

#### **Key framework areas:**

IT support | Digital champions | Digital learning champions | Learning technologists | Digital capability | Staff development

#### Select maturity level:



The organisation recognises the importance of having qualified specialist staff with digital
expertise (eg IT and networks, cyber security, learning technology, information management,
digitisation, archiving, research technologies, data and analytics). Some effective recruitment
and retention procedures are in place. Attracting and retaining highly qualified professionals
may be hampered due to lack of resources, skill shortages or opportunities to influence
strategy and/or decision making.



 The organisation acknowledges the importance of recruiting and retaining highly skilled, specialist staff with digital expertise. Benefits and conditions are offered to attract and retain staff, such as flexible working and competitive salaries. Their highly specialised skills and expertise are valued across the organisation. Specialist external consultants may be recruited for specific projects.

## ○-○- Enhanced to mature

- The organisation recognises the value that highly skilled, specialist staff with digital expertise
  can offer to digital transformation and takes a strategic and innovative approach to
  recruitment, retention and development to attract and retain the best quality staff.
- Senior staff from different digital support teams are actively involved in setting organisational strategy, policy and influencing innovation in information management, teaching and research.





182 | Digital support

## 91 Development and training of specialist IT staff

#### **Key framework areas:**

IT support | Staff development

#### Select maturity level:



• The organisation is investing in training and development opportunities to help specialist staff with digital expertise acquire new skills and stay up to date with the latest trends and technologies.



• There is significant investment in training to support specialist staff with developing and updating digital expertise. Opportunities for further specialist certification are offered.

## O-O- Enhanced to mature

The organisation is investing consistently in the development and wellbeing of specialist staff
with digital expertise and has created a culture that supports and rewards professional growth
and advancement. Staff from all digital support teams are working closely with leadership and
other appropriate teams to inform decision making, curriculum design and research activities.

## 92 Provision of appropriate digital support

#### **Key framework areas:**

Staff support | Student support | Staff development

#### Select maturity level:



 A range of digital support is provided across the organisation (eg IT, learning technology, information and research technologies, data and analytics). Digital support teams tend to prioritise on-campus activities. Requests for expert insight and support are often directed to the wrong teams due to the lack of a cohesive approach to digital support. There is no strategic approach to mapping digital expertise to different roles.

## O-O-O Established to enhanced

The need for wide-ranging digital expertise is recognised by the organisation, and it takes a
strategic approach to balance various digital skills and roles. Specialist teams support a range
of activities on and off campus in a responsive way and prioritise according to team objectives.
Some digital champions have been appointed but not all stakeholders understand how these
can support them.

## O-O- Enhanced to mature

- An integrated approach is in place to review and respond to digital support needs. Staff with
  diverse digital expertise support all stakeholders in a proactive way and are involved in decision
  making and implementing new technologies, tools or systems.
- Digital support teams work together to ensure that all digital support needs are coordinated and met in the most appropriate ways. All stakeholders can assess and feed back their own and/or team support needs. Digital champions operate across the organisation and staff and students have a clear understanding of which teams and individuals can offer support that meets their needs.





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## **Estates management**

Planning, development, administration and maintenance of physical estates that are financially and environmentally sustainable, with buildings that are fit for purpose. Ensuring that physical and virtual infrastructure integrate efficiently and effectively to deliver strategic objectives.

## 93 Strategic approach to integrating virtual and physical infrastructure

#### **Key framework areas:**

Learning spaces | Study spaces | Intelligent campus | Estates strategy | IT strategy | Digital strategy | Library and learning resources

#### Select maturity level:



#### ●──── Emerging to established

· Technology solutions in the physical estate prioritise on-campus activities. On-campus wifi access is reliable and pervasive, audiovisual equipment in lecture halls and other learning spaces is generally up to date. Some room configurations in older buildings have out of date equipment, and equipment and space may be inadequately managed and used. Newly built spaces include digital systems for communication, collaboration, energy management and access. There is a commitment to explore new solutions to improve older buildings.

#### O-O Established to enhanced

- A strategic approach exists to integrate technology into the physical estate. There is a focus on improving the user experience of staff and students to enhance all areas of business.
- · Significant investment has enhanced digital equipment and connectivity and different kinds of spaces exist across the campus. Improvements have been made through digital signage, room booking systems, effective guidance and advanced audiovisual equipment. Automated systems for energy management, security and access control are in place. Data analytics is enabling optimised use of space and campus operations.

#### ○—○— Enhanced to mature

- Integrating technology into the physical estate has helped to create a smart/intelligent campus that considers the needs of all stakeholders, both on and off campus. A wide range of technologies enhance teaching, learning, research and the overall campus experience. Examples include Internet of Things (IoT) connected devices, advanced data analytics and AI applications to optimise campus operations, such as predictive maintenance, energy efficiency and use of space. The organisation has invested in immersive learning environments, such as virtual reality (VR) or augmented reality (AR) labs and explored partnerships with technology providers to drive continuous innovation. The campus infrastructure is highly connected and data-driven, with an emphasis on sustainability, accessibility and adaptability to future needs.
- · Staff and students are regularly consulted around their experience of different spaces and how they use them.





186 | Estates management

# 94 Environmental sustainability practices on the physical campus

#### **Key framework areas:**

**Environmental sustainability** 

#### Select maturity level:



- Environmental sustainability and net zero initiatives for the physical campus are in the early stages of development.
- · The organisation has set carbon reduction targets and basic guidelines for sustainable purchasing.



- Sustainability initiatives are progressing and beginning to have a positive impact.
- Carbon management plans have established targets and a comprehensive sustainable procurement policy is in place.

## ○—○— Enhanced to mature

- The organisation demonstrates best practices and makes a significant impact on environmental sustainability and net zero initiatives.
- It is achieving net zero carbon emissions, with robust plans in place to offset any remaining emissions. Sustainable procurement requires suppliers to improve their environmental performance.

## 95 Energy efficiency on the physical campus

#### **Key framework areas:**

Environmental sustainability

#### Select maturity level:



- Basic measures to improve energy efficiency are being implemented, such as switching to LED lighting and conducting initial energy audits.
- Renewable energy options are being explored and small-scale pilot projects are being implemented.



- Energy efficiency is being achieved through comprehensive audits, retrofitting buildings and implementing advanced energy-saving measures.
- Renewable energy systems have been installed and are being integrated into campus energy sources.



- Advanced efficiency measures and innovative technologies are achieving net zero energy consumption in buildings.
- A significant portion of the campus's energy needs is met through renewable sources and energy storage solutions are being implemented.





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## 96 Green transportation

#### **Key framework areas:**

**Environmental sustainability** 

#### Select maturity level:



• Green transportation is encouraged through awareness campaigns and provision of basic infrastructure, like bike racks.



 Green transportation infrastructure is expanding and incentives are being offered for sustainable commuting.



• Low-emission vehicles are available and the organisation leads in innovative green transportation solutions.

### 97 Waste reduction

#### **Key framework areas:**

Environmental sustainability

#### Select maturity level:



• Basic recycling and waste reduction initiatives are in place and stakeholders are aware of water conservation measures.



· Advanced waste reduction strategies and water-saving measures are in place.



 The organisation has made significant progress on zero waste to landfill and promotes a circular economy culture on campus. Reductions in water use are achieved through advanced water recycling and reuse systems.





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## 98 Green spaces

#### **Key framework areas:**

**Environmental sustainability** 

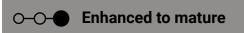
#### Select maturity level:



• Existing green spaces are protected and maintained; native species are included in landscaping.



 Campus green spaces are enhanced through creation of wildlife habitats, and incorporation of green roofs and walls.



· The campus provides an exemplary model of biodiversity and sustainable landscaping.

# 99 Community partnerships and initiatives for environmental sustainability

#### **Key framework areas:**

Environmental sustainability | Local community | Regional growth | Building digital communities | Partnerships

#### Select maturity level:



· The organisation is initiating relationships with local organisations to promote sustainability.



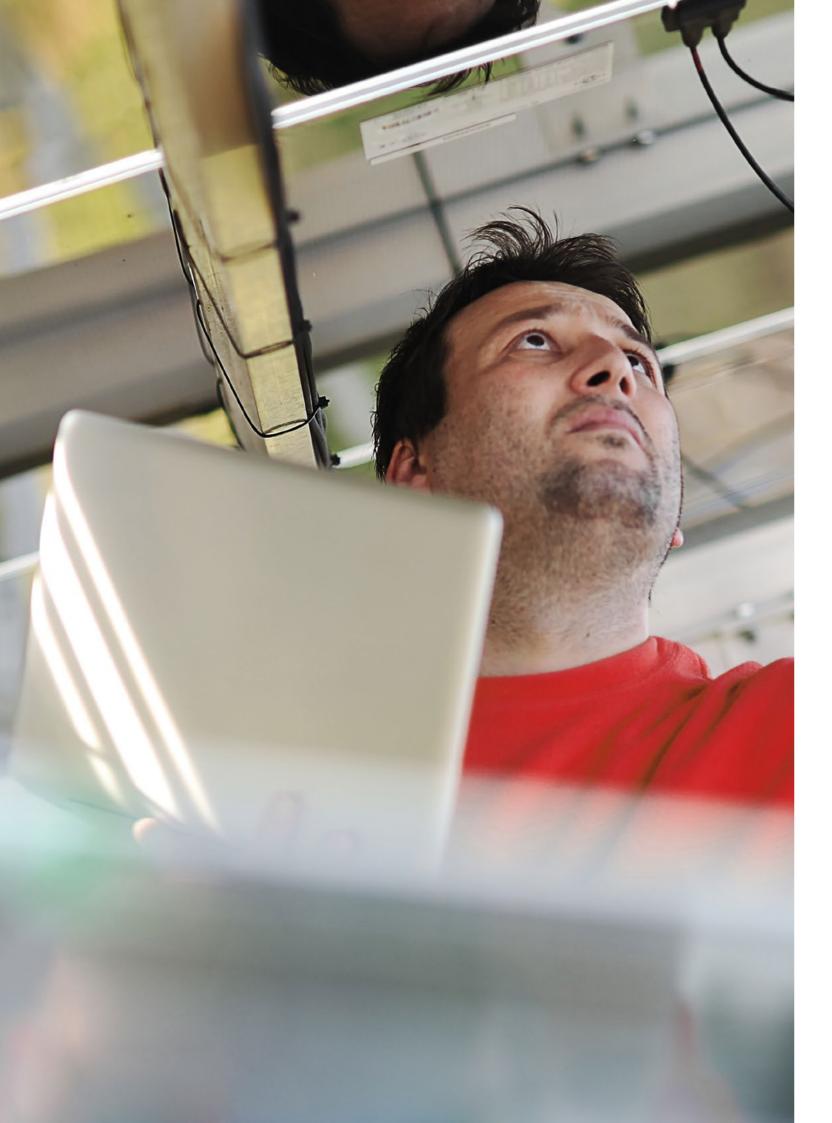
• The organisation collaborates actively with other institutions, businesses and community groups on sustainability projects.



 The organisation is leading regional and national sustainability initiatives and fostering strong partnerships with other institutions and bodies.







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- Organisational identity
   7 Develop and promote an external digital identity that reflects the organisation's mission and values
- Wider impact
   26 Impact of organisational research, enterprise and innovation on local, regional, national and international communities

#### Open educational practice (OEP)

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#### Open educational resources (OER)

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#### Open research

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#### Open sharing

Collaboration
74 Open practices to support knowledge sharing and exchange

Community participation
 76 Supporting knowledge exchange and wider digital collaboration

#### Openness and transparency

Business intelligence (BI)
 66 Strategic and integrated approach to the collection and management of corporate data,
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#### Operational change

Organisational change11 Leading and enabling digital transformation

#### **Organisational communication**

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 69 Strategic approach to digital communication
 70 Digital media production and dissemination

#### **Organisational values**

- Digital culture and mindset
  - 1 Develop and model an internal digital culture that is congruent with the organisation's mission and values
  - 2 Embrace sustainable behaviours and mindsets
  - 4 Ensure the digital culture of the organisation supports equity, diversity and inclusion (EDI)
- Research
  - 18 Ensuring ethical and responsible, transparent and secure research
  - 19 Supportive, enabling environment for the development of researchers

#### **Partnerships**

- Information management and use59 Partnership approaches to library and information strategies
- Relationship management77 Consistent and coherent relationship management strategy
- Estates management
   99 Community partnerships and initiatives for environmental sustainability

#### Personalised learning

- Digital learning
- 40 Opportunities for learners to record achievements and reflect on progression over time 41 Diverse needs of digital learners

#### **Problem solving**

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76 Supporting knowledge exchange and wider digital collaboration

Estates management

99 Community partnerships and initiatives for environmental sustainability

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#### Research skills development and training

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20 Recruitment and retention of researchers

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22 Specialist support to researchers

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70 Digital media production and dissemination

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#### Staff development

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45 Development and training of teaching staff

Information management and use

54 Information management skills and expertise

58 Development and training of specialist library and information staff

Data management and use

63 Recruitment and retention of specialist data professionals

64 Developing appropriate data skills of staff

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- Digital support
  - 90 Recruitment and retention of specialist IT staff
  - 91 Development and training of specialist IT staff
  - 92 Provision of appropriate digital support

#### Staff recruitment and retention

- Organisational wellbeing
  - 9 A strategic approach to digital wellbeing
  - 10 Adopt flexible approaches to work and study to accommodate the different needs and preferences of all stakeholders
- Digital learning
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- Digital learning
  - 41 Diverse needs of digital learners

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73 Culture of digital collaboration

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- Digital learning
  - 37 Development of digital capabilities among learners
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40 Opportunities for learners to record achievements and reflect on progression over time

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- Digital teaching
  - 43 Digital learning, teaching and assessment infrastructure
- Learner experience
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Find your Jisc relationship manager ji.sc/contact-relationship-manager – we are ready to discuss any, or all aspects contained within this report.

View our guide for digital transformation in higher education: https://ji.sc/HE-digital-transformation

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