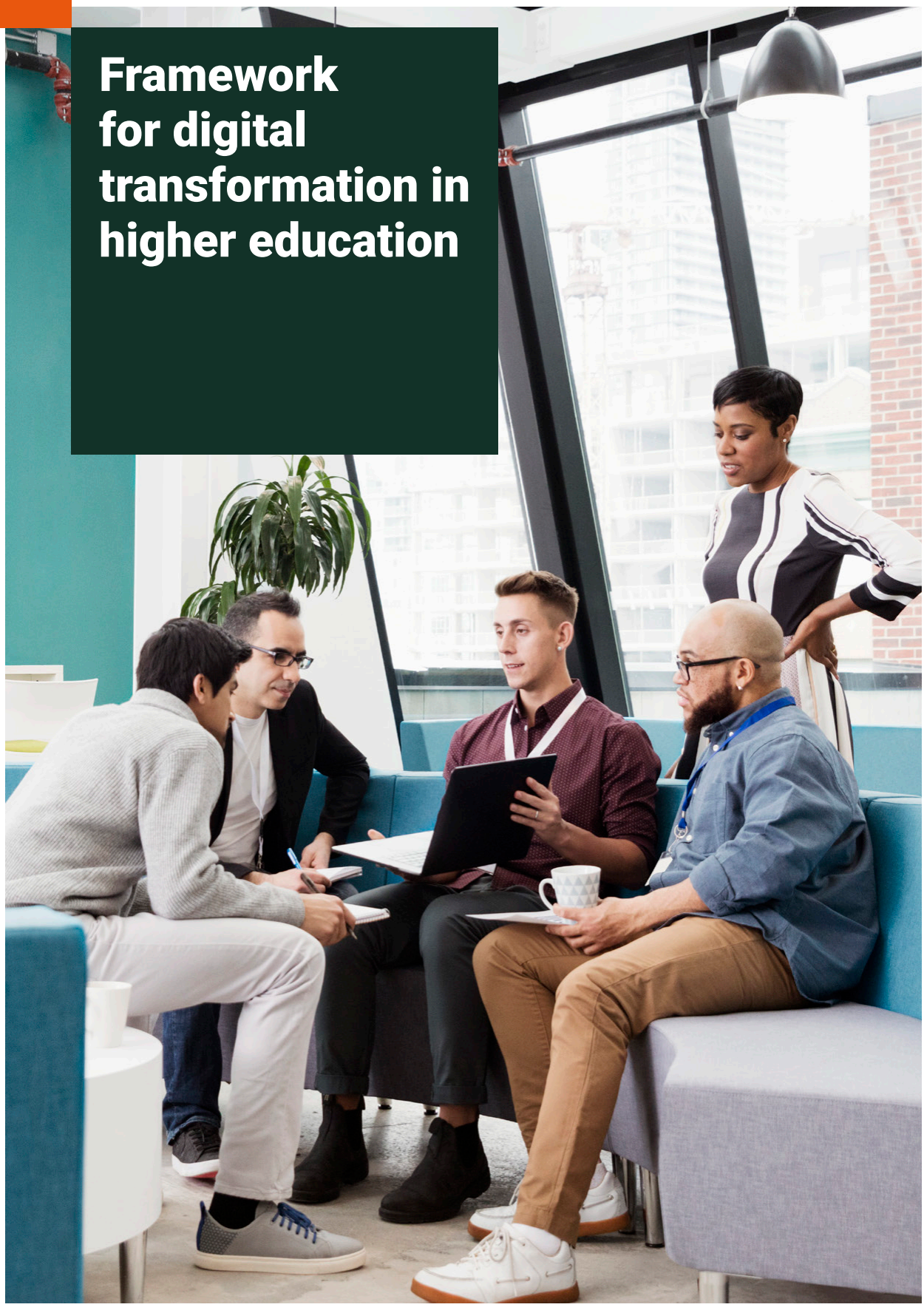
Jisc

Framework for digital transformation in higher education



Contents

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

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

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

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

Digital transformation

UK universities are facing significant disruption due to the economic crisis and limited resources, along with the impact of COVID-19 on staff and student wellbeing. One of the ways the sector is responding to challenges and disruption is by revisiting their strategies for digital.

Successful digital transformation requires effective digital leadership, appropriate investment, robust secure infrastructure, stakeholder engagement, and digitally capable staff and students. The complexities and scale of higher education institutions (HEIs) present challenges to achieving ambitious digital strategies. Jisc has developed this framework for digital transformation for senior leaders, managers and change agents with responsibility for supporting digital transformation - across a range of different roles and departments within their organisational structures.

“Digital transformation is a series of deep and coordinated culture, workforce, and technology shifts that enable new educational and operating models and transform an institution’s business model, strategic directions, and value proposition.[1]”

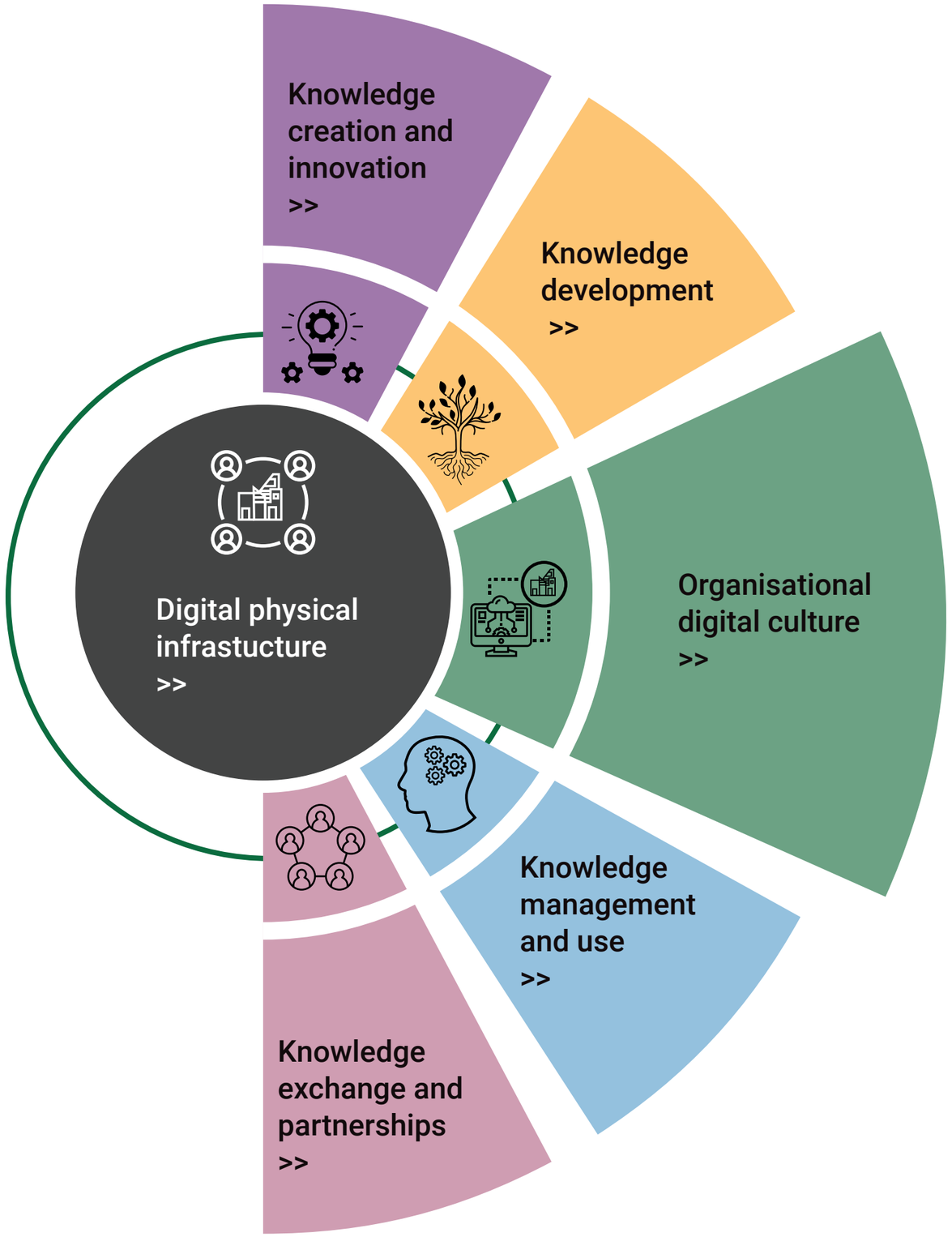
[1] Brown et al. Digital Transformation Signals: Is Your Institution on the Journey? Enterprise Connections (blog), EDUCAUSE Review, May 12, 2020

The framework - a structure for digital transformation

The framework presents a comprehensive perspective on how the digital environment can support positive work, research and learning experiences, and promote a sense of belonging and wellbeing.

It offers a structure to guide the development of strategic vision and planning, fostering innovation, streamlining business processes and operations, and developing partnerships for collaboration. It highlights how policies and processes might align to promote cross-team approaches to reduce complexity and fragmented processes.

The framework will be supported by an evolving range of materials to help organisations assess their digital maturity across all business activities. These materials will signpost through to support available from UK higher education (HE) sector bodies, as well as Jisc resources, products and services that can enable digital transformation.



The framework aims to:

1. Support the development of a **shared understanding of digital transformation** across the sector and within HE organisations
2. Encourage a holistic approach - **identifying patterns and connections across traditional boundaries**
3. Encourage **collaborative approaches** and build on the collective wisdom of the sector and organisations
4. Help **reduce complexity and fragmented processes**
5. Support HE organisations to articulate a **strategic vision for digital transformation** and develop **actionable plans to achieve this**
6. **Inform decision making** and prioritise investment
7. **Focus on people and practices**, not just processes and technology
8. Highlight **leadership and digital capability** as a critical success factor

The framework and accompanying materials can be used within organisations to:

- Map activities, strengths, ambitions, and key strategic principles and values
- Bring together key stakeholders to allocate responsibilities and identify which teams have the expertise to fulfil each of the organisational activities
- Recognise the range of digital expertise within the organisation, and plan to use that more effectively across organisational boundaries
- Identify any gaps in expertise or in responsibility, and plan to fill them
- Identify digital maturity for different areas of activity: emerging, established, enhanced (in development)
- Support the development and success of digital strategy/ies and to connect strategies together
- Draw up achievable, measurable action plans
- Move forward from legacy systems and approaches
- Contextualise their current position and next steps, recognising each institution has a unique starting position and maturity levels

Background

Developing the framework

This framework has been developed with input from a range of UK professional bodies: Advance HE, Association for Learning Technology (ALT), Association of University Administrators (AUA), Association of University Directors of Estates (AUDE), Quality Assurance Agency for Higher Education (QAA), Society of College, National and University, Libraries (SCONUL), Universities and Colleges Information Systems Association (UCISA), Universities UK (UUK) and Vitae. This ensures the framework reflects sector priorities and links to key UK HE models and frameworks already in use. It has evolved from Jisc's organisational digital capability framework and maturity model, which was originally published in 2015 and updated 2018, to reflect a broader focus on digital transformation.

The framework adopts a knowledge practices approach. In addition to the underlying **digital and physical infrastructure** and the overarching **organisational digital culture**, the four core knowledge practices focus on the wide range of activities, experiences and practices of an HE organisation.

- **Knowledge creation and innovation**
- **Knowledge development**
- **Knowledge management and use**
- **Knowledge exchange and partnerships**

This takes the emphasis away from technological or business process approaches and puts the focus on what people do or need to do to enhance these practices within the organisation. It also aims to help organisations see patterns, links and synergies across traditional boundaries, and encourage ownership and engagement of all stakeholders.

It is important to note that some aspects of, and critical success factors for, digital transformation cut across the whole framework. These include leadership, strategic vision, appropriate investment, equity, diversity and inclusion, sustainability, stakeholder engagement, security and safety, international activities, staff training and development, and digital wellbeing. These are all included within this framework at various points, but relate to specific practices and areas of work of a particular range of staff or other stakeholders. Each section has a list of keywords which highlight these aspects and reflect the kinds of principles and values that organisations often highlight in their corporate strategies.

The framework structure highlights the importance of using information and data intelligently, building on existing collective wisdom, and also emphasises the impact of knowledge creation, innovation and exchange in a global setting through collaborative social and learning networks.

The framework can be used to break down various elements of digital transformation activity into achievable goals and actions. It is presented in varying degrees of detail from broad statements to illustrative examples of more specific activities. The use of the term 'stakeholders' throughout the framework should be interpreted in its broadest sense, meaning senior leaders, governors, staff, current students, and alumni, as well as other partners such as employers and business consortia members.

Introducing the framework

The six elements and their four key areas of activity

Core knowledge practices

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, as well as how well it implements and adapts to organisational change.

- Digital culture and mindset
- Organisational identity
- Organisational wellbeing
- 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.

- Digital vision and horizon scanning
- Research
- Innovation
- Wider impact

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
- Digital learning
- Digital teaching
- 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.

- Information management and use
- Data management and use
- Business intelligence
- 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.

- Communication
- Collaboration
- Community participation
- Relationship management

Digital and physical infrastructure

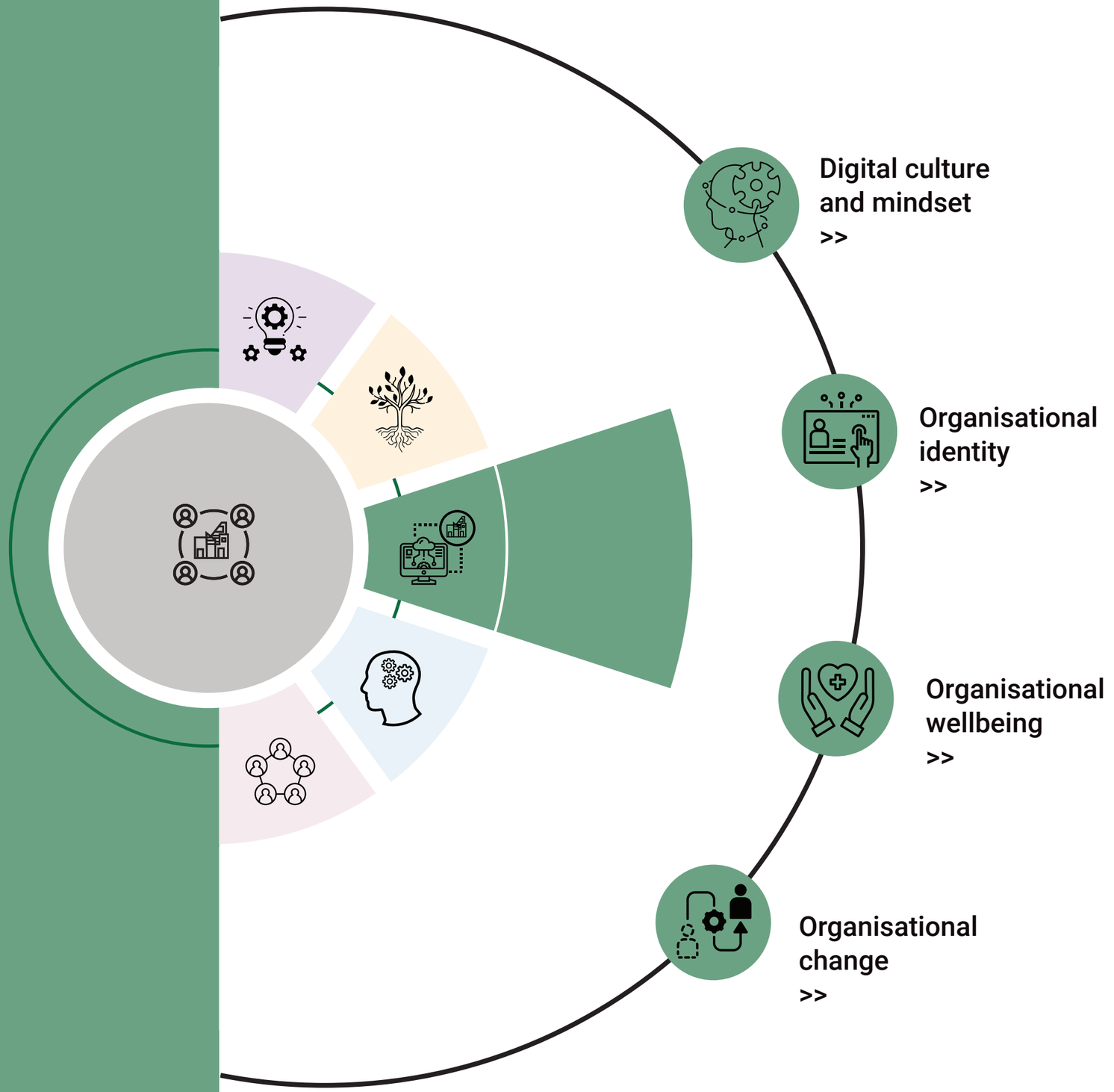
Providing robust and secure infrastructure through relevant expertise and vision, including appropriate investment in networks, systems, hardware, software, and digitally-equipped physical spaces, and ensuring effective management and standards compliance.

- Robust digital infrastructure
- Digital connectivity
- Digital support
- Estates management

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.

Areas / principles / values
Accessibility and inclusion | Business continuity planning | Digital leadership | Digital poverty | Digital strategy | Futures thinking | Governance | Organisational values

Broad activities
Develop and model an internal digital culture that is congruent with the organisation's mission and values; promoting dignity, courtesy and respect towards others.

Ensure the digital culture of the organisation supports equity, diversity and inclusion.

Examples of activities that might be done

- Work with stakeholders to produce a glossary that provides an agreed organisational definition of terminology that reflects the principles and values of the organisation (eg resilience, sustainability, inclusion, graduate attributes, responsible and ethical research and innovation)
- Develop codes of practice for different areas of business activity that articulate clear expectations around digital practices and behaviour
- Encourage staff to identify new digital opportunities to improve their working practices and to feed in suggestions via the appropriate approval routes
- Apply ethical frameworks to ensure staff and learners approve the use of automated notifications

Areas / principles / values
Digital capability | Digital confidence | Digital fluency | Digital innovation | Digital leadership | Human resources | Stakeholder engagement

Broad activities
A culture of digital fluency is fostered to enable transformation and change.

Develop a shared understanding of what digital capability means to the organisation; engage and involve stakeholders across the whole organisation.

Develop an organisational digital capability plan that helps the organisation. Review stakeholder confidence; identify capabilities for digital learning, current and new job roles; develop training and support mechanisms.

Examples of activities that might be done

- Review existing job descriptions and person specifications to ensure that digital capabilities relevant to each role are up to date
- Provide opportunities for staff and students to self-assess and reflect on their own digital capabilities and develop individual development plans to enhance the areas they identify as important
- Ensure that digital leaders have opportunities to self-assess and reflect on their own digital capabilities and enhance these to model digital confidence to others
- Give senior leaders the opportunity to attend a digital leadership course
- Use the Jisc role profiles to consider and baseline digital capabilities of different groups (eg digital leaders, professional services, teachers, students, library staff, learning technologists, researchers)

Areas / principles / values
Digital innovation | Digital leadership

Broad activities
Establish and support a culture of innovation and experimentation

Apply a ‘digital by design’ approach when developing new systems, operations or services.

Develop a digital first approach which seeks to redress a bias towards conventional channels and behaviour (not necessarily replacing traditional non-digital approaches).

Examples of activities that might be done

- Carry out an organisation wide audit of manual and digital relationship management systems to develop a coherent and integrated single source customer relationship management (CRM) system

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.

Areas / principles / values
Building digital communities | Business and industry | International activities | Marketing and communications | Sense of belonging

Broad activities
Develop and promote an external digital identity that reflects the organisation’s mission and values.

Ensure individual members of staff and students are supported to develop positive online identities, to the benefit of themselves and the organisation as a whole.

Ensure the organisation is defended against the risks of negative online behaviours by staff and students.

Promote digital engagement and participation across the organisation, ensuring the use of digital tools and networks supports access, inclusion, and equality of opportunity.

Consider how international initiatives and activities impact on organisational identity and adopt a coherent strategy across all areas of business. Incorporate international activities into all organisational strategies.

Examples of activities that might be done

- Promote and encourage a sense of belonging for all stakeholders and provide a mix of on-site and digital opportunities for them to demonstrate presence and engagement

- Encourage students to establish and build professional/career related digital identities throughout their course

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.

Areas / principles / values

Accessibility and inclusion | Cyber security | Digital fluency | Digital wellbeing | Economic/financial literacy | Employer relations | Environmental sustainability | Flexible workplace | Human resources | Staff recruitment and retention | Staff support

Broad activities

Develop and lead an organisational wellbeing policy that includes digital impacts on health and offers digital tools and services to support positive wellbeing.

Embed wellbeing into relevant organisational strategies and policies.

Model and promote healthy, sustainable practices with digital technologies in the organisation.

Ensure organisational health and safety policies are up to date and include digital issues; ensure effective use of digital approaches in occupational health.

Develop policies for staff and students on the legal, ethical and safety aspects of online behaviour.

Develop and monitor organisational approaches to online abuse, cyber bullying, cyber fraud.

Develop a realistic awareness of digital opportunities and risks, and use this to build a healthy digital workplace.

Adopt flexible approaches to work and study to accommodate different needs and preferences of all stakeholders.

Examples of activities that might be done

- Engage and involve stakeholders to develop shared guidelines and approaches for the use of digital communications to negotiate, argue respectfully, and deal with and respect difference
- Develop accessibility and inclusion policies, practices, support and guidelines to ensure that all stakeholders have equitable experiences of work and learning
- Make sure accessibility, inclusion and wellbeing challenges and problems are addressed as a high priority
- Provide staff with digital tools, apps or services to manage their wellbeing (eg time management, workload prioritisation, screen time), and encourage their use
- Investigate the ethical use of digital nudges (automated notifications) to monitor wellbeing of staff and/or students
- Offer remote/hybrid working for appropriate roles to improve recruitment and retention of skilled staff. Encourage engagement, reconfigure tasks and events to fit a digital format, and address mental health and equity issues
- Upgrade or reconfigure workspaces to support a flexible, hybrid work culture (eg upgraded classrooms, conference rooms, shared workspaces)

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.

Areas / principles / values

Baselining | Corporate strategy | Digital innovation | Digital leadership | Digital strategy | Foresight | Governance | Investment | Operational change

Broad activities

University leaders understand the potential transformative nature of digital, data and technology and the positive impact for students and staff.

Develop and lead digital transformation strategy and initiatives; identify systems, operations, services and practices that can benefit from integrated digital approaches.

Develop and manage plans and projects to achieve digital change; engage stakeholders; develop shared understanding, establish achievable targets; encourage cross-organisational approaches and leadership.

Enable creative responses to digital change by rewarding innovation, developing a risk-accepting culture, supporting staff and modelling innovative approaches.

Develop and lead a culture of managed risk taking, agile innovation and responsive adaptive staff.

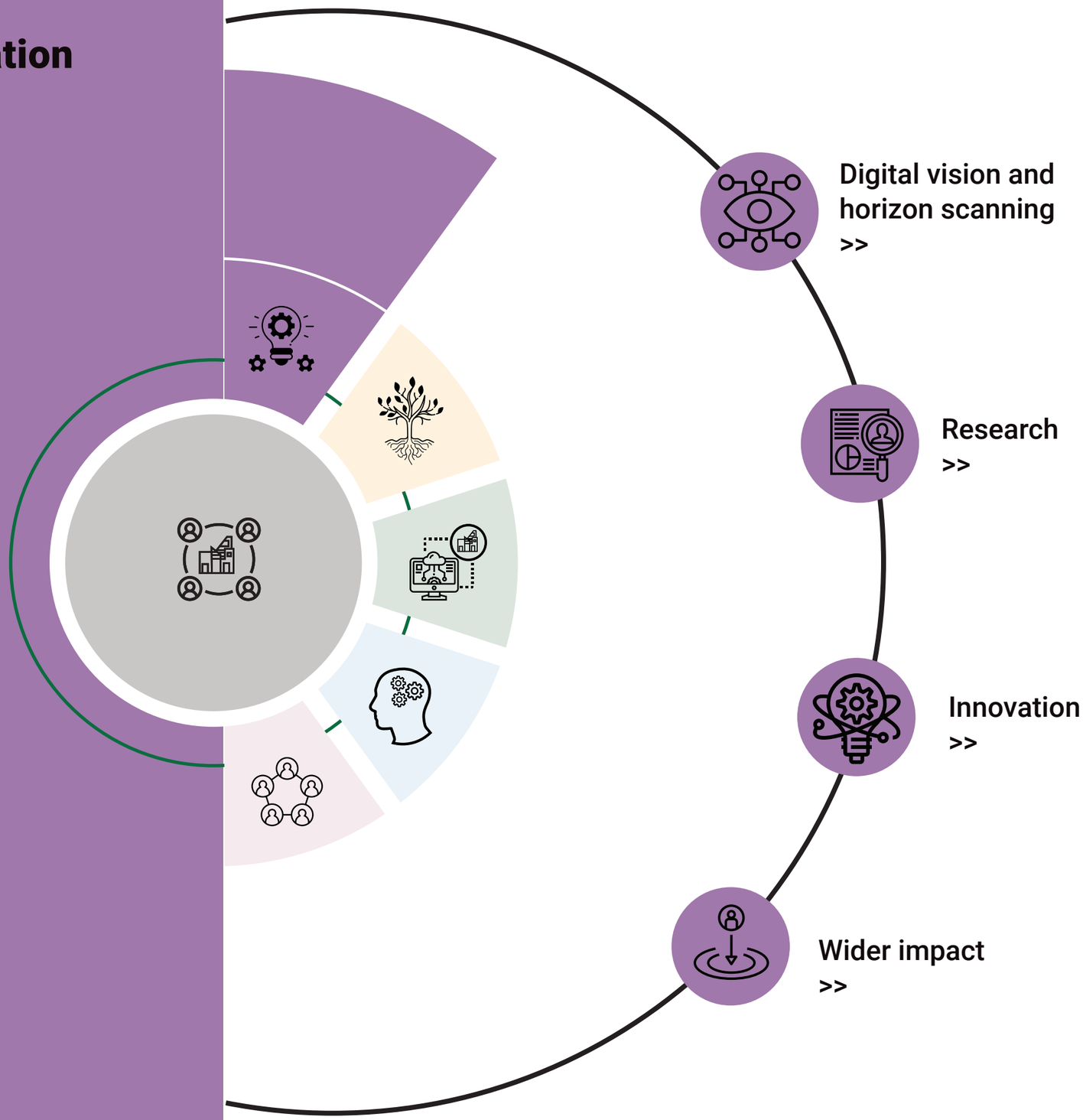
Develop a strategy to recruit and retain digitally-skilled senior leaders to enable long-term stability during periods of volatile and rapidly changing job markets.

Examples of activities that might be done

- Ensure senior leaders are clear about their roles as digital leaders and confident to model good digital practice and innovative approaches to others
- Carry out a review of roles and remits of existing senior management groups/ committees, in light of development plans, to clarify group responsibilities and to identify any gaps in coverage
- Provide time and space for staff to benefit from digital transformations and ensure recognition and sharing of good practice

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



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.

Areas / principles / values
Benchmarking | Digital creativity | Digital leadership | Digital vision | Foresight | Futures thinking | Horizon scanning | International activities | Industry trends | Strategic planning | Sector trends

Broad activities
Establish a 'futures-thinking' mindset for senior leaders and governors.

Establish relevant groups of stakeholders and organisational leaders to monitor industry and sector trends and establish benchmarks.

Prepare for opportunities and threats through systematic investigation of trends influencing technology and higher education.

Enable senior leaders and governors leaders to ask effective questions that inform future planning and devise varied approaches to gathering evidence from different stakeholder groups.

Foster a culture of digital creativity across the organisation.

Adopt an international approach to horizon scanning to ensure that the organisation is aware of current developments and future possibilities, and can learn from other countries and institutions globally.

Examples of activities that might be done

- Develop a series of visioning workshops for senior leaders
- Encourage leaders and governors to be aware of digital transformations in industry, research and development, education, and business sectors and consider how to incorporate appropriate new practices and approaches into the organisation (eg curriculum development, knowledge practices)
- Create a futures-thinking or foresight framework for the organisation which supports policy decision making

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.

Areas / principles / values
Building digital communities | Digital strategy | Ethics | International activities | Library and learning resources | Open research | Research collaboration | Research management and support | Research skills development and training | Research support

Broad activities

Develop a digital research strategy or equivalent, including policies for digital research infrastructure, research asset management, open research/publishing, knowledge exchange, collaboration with partners including international, trusted research, research data management, and digital research culture.

Ensure high-quality and robust practices across the research lifecycle so that research is ethical and responsible, has integrity and is trustworthy, reproducible, transparent and open, and conducted in secure settings.

Invest in digital research systems and environments, and infrastructure for specialist digital research. Provide a sustainable physical and digital infrastructure for research - (software, technology and infrastructure optimised for cost (see also infrastructure section)).

Provide a supportive, enabling environment for the development of researchers, ensuring digital research skills are included in courses of study, researcher development, and staff development.

Enable recruitment, development and retention of researchers.

Provide specialist support to researchers such as research management, IT support, research skills.

Identify new opportunities for international research collaboration to encourage international investment, staff mobility and potential benefits from compatible international policy, regulation and infrastructure.

Develop and support a digital research culture that embeds equity, diversity and inclusion.

Examples of activities that might be done

- Enable interdisciplinary approaches to research through digitally-connected communities
- Provide access to appropriate scale and type of research infrastructure
- Identify routes to access appropriate technologies (eg high performance computing) within or outside the organisation to support high complexity/high capacity research
- Provide adequate and well-managed research data storage
- Provide secure access to open research data management infrastructure and policies to support clear research data lifecycle provision to include preservation and disposal
- Ensure that effective content management systems are developed and used and maintained to support storage, retrieval and access to research and enterprise outputs, including internal and external digital repositories
- Identify routes to managing physical research assets and equipment digitally to support a sustainable research estate
- Identify routes for researchers to access research software and data engineering services where appropriate
- Offer research software engineering services to researchers to develop and improve code for specific research projects
- Reduce bureaucracy and administrative burdens on researchers by streamlining and simplifying research management process
- Ensure availability and management of effective and interoperable research management processes, systems and technology

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.

Areas / principles / values
Community collaboration | Digital creativity | Digital leadership | Digital strategy

Broad activities
Undertake digital innovation projects to support strategic goals.

Develop and lead innovative approaches to creating and using digital systems, tools and services across the organisation.

Ensure organisational leaders model innovative practice and support the development of a culture of appropriate innovation that aligns with organisational strategies.

Identify barriers to innovating practice across the organisation (eg infrastructure, reward and career structures, time and task management) and develop positive responses.

Ensure innovation is recognised and valued among staff at all levels.

Enable innovation in organisational structures, supported by digital work practices.

Work with the local community and businesses to identify areas where the organisation can work with others to contribute towards local and regional improvement initiatives.

Examples of activities that might be done

- Enable recognition, recruitment, development and retention of creative digital practitioners in professional roles
- Encourage and support staff to take calculated risks and experiment with technologies
- Develop a ring-fenced innovation budget to support initial development of ideas
- Provide opportunities for students to be involved as partners in research-informed digital innovation
- Create new events, awards, initiatives and funding streams to support digital creativity
- Support centres of excellence in digital fields and ensure their expertise is leveraged inside the organisation
- Enable a culture of enterprise and facilitate initiatives that contribute to the wider community; build entrepreneurship skills in students

Wider impact

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

Areas / principles / values
Building digital communities | International activities | Local community | Local/Regional/National/ impact | Marketing and communications

Broad activities
Analyse and record the impact of organisational research, enterprise and innovation on local, regional, national and international communities (eg industry, business, research).

Produce and disseminate knowledge assets created by the organisation into appropriate formats and messages for a range of different stakeholders.

Support the organisation's digital media professionals, helping them to develop and use their expertise in website design, digital branding, reputation management, digital content production, and other digital specialisms.

Understand and critique the impact of organisational decisions around technology investment, implementation and use on different business activities (eg education, research, environmental impact).

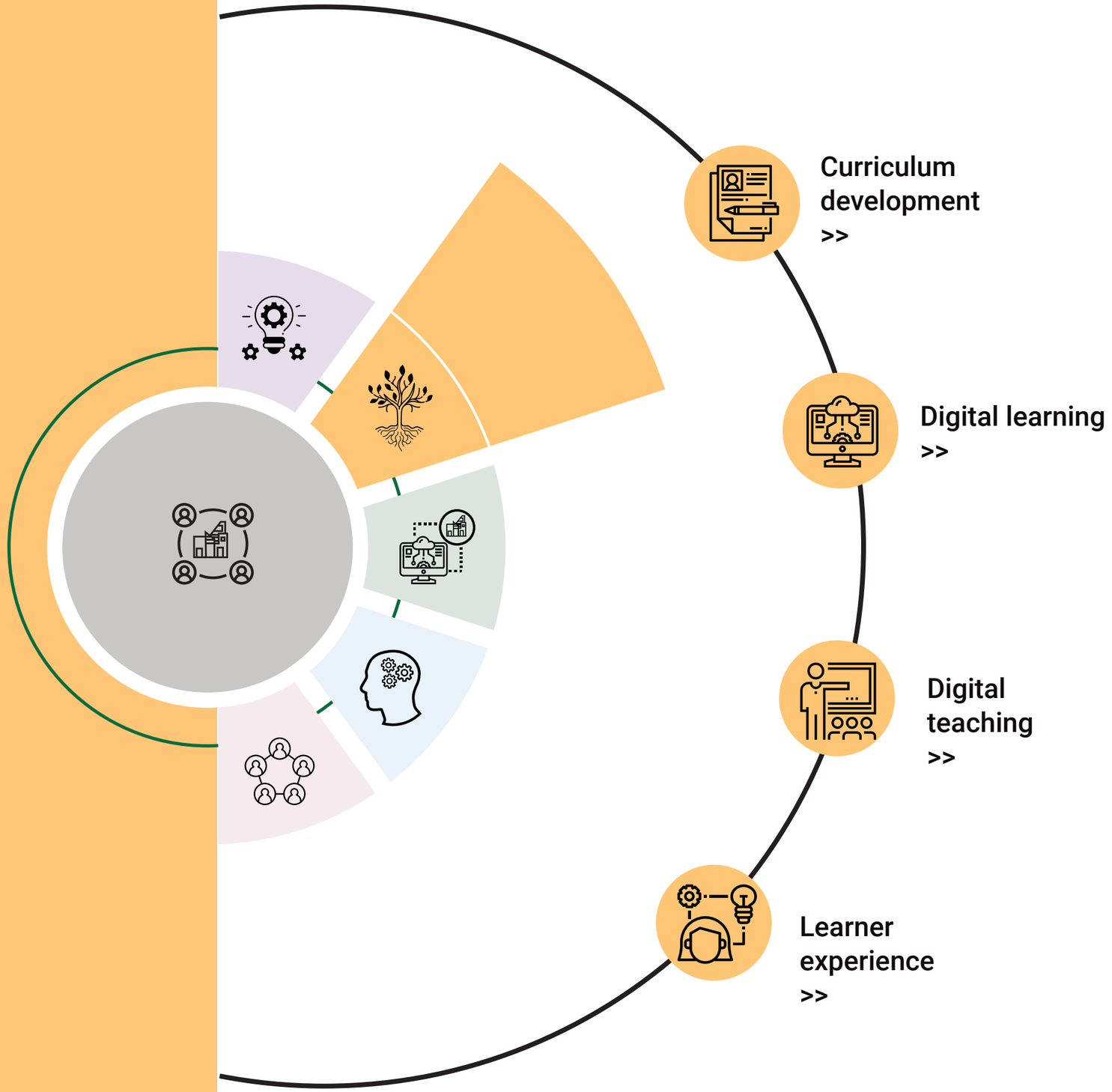
Establish mechanisms to measure the impact of innovation and research improvement initiatives.

Examples of activities that might be done

- Ensure staff and students have the appropriate technologies, support, and training to produce digital content for different audiences
- Maintain efficient marketing and communications to ensure that organisational outputs and key messages are effectively managed, stored, branded, and disseminated

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).

Areas / principles / values
Assessment and feedback | Curriculum design | Curriculum frameworks | Digital capability | Digital strategy | International activities | Learning design | Learning models | Learning resources | Learning teaching and assessment strategy | Validation

Broad activities

Develop a strategy and/or framework for digital learning, technology-enhanced learning (TEL), digital education or equivalent, and support its implementation in departments and services.

Produce a strategy or policy around 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).

Align TEL strategies with other organisational strategies (eg IT or digital strategy, estates strategy, transnational education, student experience).

Develop a strategy for digital assessment or electronic management of assessment (EMA) and support its implementation in departments and services.

Design assessments that enable all students to demonstrate their achievements, using digital tools and media as appropriate.

Embed digital capabilities into courses of study and invest in support for curriculum teams to design effective, authentic digital learning opportunities.

Consider different models to expand learning opportunities for existing students and consider how these may extend institutional reach (eg distance, MOOCs, online, blended/hybrid).

Develop a culture of learning and teaching excellence through innovations in pedagogy and the involvement of students as partners in curriculum learning design.

Encourage and support research into digital and online learning to remain in step with changing needs and preferences of prospective students.

Enable curriculum planning in response to longer term changes in graduate careers and life paths (from horizon scanning) as well as the needs of the current job market.

Examples of activities that might be done

- Work to transform and develop courses across the organisation according to changing strategic visions, employer needs, and/or frameworks such as active blended learning, personalised learning, hybrid learning, and transdisciplinary learning
- Reconsider and redesign traditional assessment and feedback to realise the affordances of digital approaches, ensuring staff and students have the required digital capabilities
- Explore economic models for offering blended learning at scale
- Identify and implement new international programmes of study
- Consider new global markets for courses exhibiting increasing demand in light of increased digital learning capacity and staff capability
- Explore how digital and physical spaces are being/could be used to provide enhanced opportunities for student flexibility and engagement

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.

Areas / principles / values
Accessibility and inclusion | Digital capability | Digital poverty | Effective digital learners | E-portfolios | Flexible learning | Learning spaces | Library and learning resources | Personalised learning | Self regulation | Student choice | Student learning | Student progression | Student support | Study spaces

Broad activities
Invest in self-access resources to support the development of digital capabilities among learners.

Provide and support mechanisms and opportunities for learners to record achievements and reflect on progression over time.

Ensure learners have seamless physical and remote access to all the digital information they need to make good choices, meet course requirements, progress, and achieve, such as library and information services, digital collections, data sets, further guidance and support.

Identify the diverse needs of digital learners, particularly those at risk of exclusion because of issues such as poverty, disability, mental health, physical location, language, cultural differences or any other access difficulties. Acknowledge previous digital experiences of students, particularly where they may be different (eg international students). Develop approaches to create accessible and inclusive in-person and off-campus learning experiences.

Invest in a range of support services to ensure that appropriate support and guidance exists to help develop effective digital learners.

Make learners aware of the digital skills they will need in their chosen career pathways and have opportunities to practice them throughout their course/s.

Provide learners with digital opportunities that encourage self-regulated independent learning.

Give learners clear guidance on the technical requirements of their course (eg hardware, software, access, etc).

Understand the digital tools and resources available to students, including third party and AI-driven platforms, and support students to use these effectively and with academic integrity.

Support students to engage in learning through online, on-campus and blended modes to suit their course demands and personal circumstances.

Examples of activities that might be done

- Use a balance of in-person and digital methods to provide timely and appropriate feedback throughout a course to allow students to self-regulate their learning
- Encourage and support learners to self-assess, identify, and articulate their digital and study preferences, and needs through a mixture of in-person and digital diagnostic methods
- Offer learners regular opportunities to assess their digital learning capabilities and identify what support they need to build on these
- Provide learners with appropriate digital tools and encouragement/support to reflect on their learning (eg e-portfolios, personal blogs)

Areas / principles / values
Digital capability | Flexible workplace | Staff development | Staff recruitment and retention

Broad activities
Invest in digital personal/professional development opportunities for all staff employed by the organisation.

Develop and embed opportunities for reflection, recognition and reward for digital learning activities throughout the organisation.

Examples of activities that might be done

- Provide opportunities for curriculum teams to assess and reflect on the levels of digital capability and identify areas for professional development opportunities for student flexibility and engagement

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.

Areas / principles / values
Assessment and feedback | Digital capability | Data analytics | Learning environments | Learning infrastructure | Learning technologists | Learning resources | Library and learning resources | Open educational practice (OEP) | Open educational resources (OER) | Staff development | Student support

Broad activities
Invest in digital learning and teaching infrastructure such as the VLE/LMS, assessment and submission/marking systems, e-portfolios, analytics, AR/VR.

Invest in and manage a range of digital platforms to support on-campus, online live and asynchronous engagement in learning.

Recognise the different teaching skills required to engage students in different spaces and platforms, and support staff to develop these. Embed these and digital capabilities into initial and ongoing professional development for teaching staff.

Ensure teaching staff with digital skills and expertise are recruited, developed and retained.

Embed digital into learning, teaching and assessment practice.

Ensure that digital approaches contribute to the removal of obstacles and do not create new barriers to learning.

Identify and embed workplace skills into learning, teaching and assessment that mirror real world working environments.

Investigate and develop strategies for the ethical use of learning analytics to inform teaching and curriculum development.

Invest in and manage a range of learning spaces with suitable connectivity and equipment to support group, individual and off site learning and teaching.

Use a range of digital approaches to ensure that learners receive constructive and timely formative feedback from teachers, tutors, peers, self and others.

Establish mechanisms and policies to support the development and appropriate use of accessible digital teaching resources.

Invest in appropriate industry- aligned technologies that provide 'real-world' experience and authentic practice for students.

Examples of activities that might be done

- Establish a set of metrics and analytics that can be used to measure the success of digital learning beyond the simplistic data such as attendance and retention
- Invest in self-access resources to support the development of digital capabilities among staff
- Explore or research the use of AI to provide a personalised learning experience which identifies and responds to the needs and preferences of learners
- Provide opportunities for teaching staff to share digital practices and expertise formally and informally
- Ensure recognition and reward for teaching staff who develop their digital capabilities (eg appraisal, grading, time allocation, career opportunities, specialist roles, link to teaching excellence)
- Redesign the management and delivery of assessment and feedback mechanisms
- Leverage technologies to scale delivery of high-quality services to students located anywhere in the world
- Adapt quality improvement processes to support the adoption of digital approaches to learning, teaching and assessment
- Work with stakeholders to identify barriers to the adoption of technologies related to blended/hybrid learning and find ways to deal with this equitably (eg cameras on/off for remote students, environmental impact of digital interactions)
- Identify alternative means to support knowledge practice for people who are unable to access in-person spaces or equipment (eg games, simulations)
- Work with other HEIs as consortia to advocate for increased availability and affordability of e-books with publishers

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.

Areas / principles / values
Accessibility and inclusion | Building digital communities | Digital fluency | Digital participation | Digital wellbeing | International activities | Sense of belonging | Student experience | Student support

Broad activities
Baseline and benchmark the digital learning experience and work in partnership with learners to make improvements.

Reward students for developing digital capabilities (eg with internships, personal development opportunities, co-curricular awards, digital badges, digital capability as a graduate attribute).

Consider the wider experience of learners across the organisation and adopt digital strategies to ensure that there are opportunities for personal development such as, making connections and friendships, creating a sense of belonging, wellbeing, and participating in community experiences.

Provide a range of in-person and digital mechanisms to offer support to students and build on their personal wellbeing.

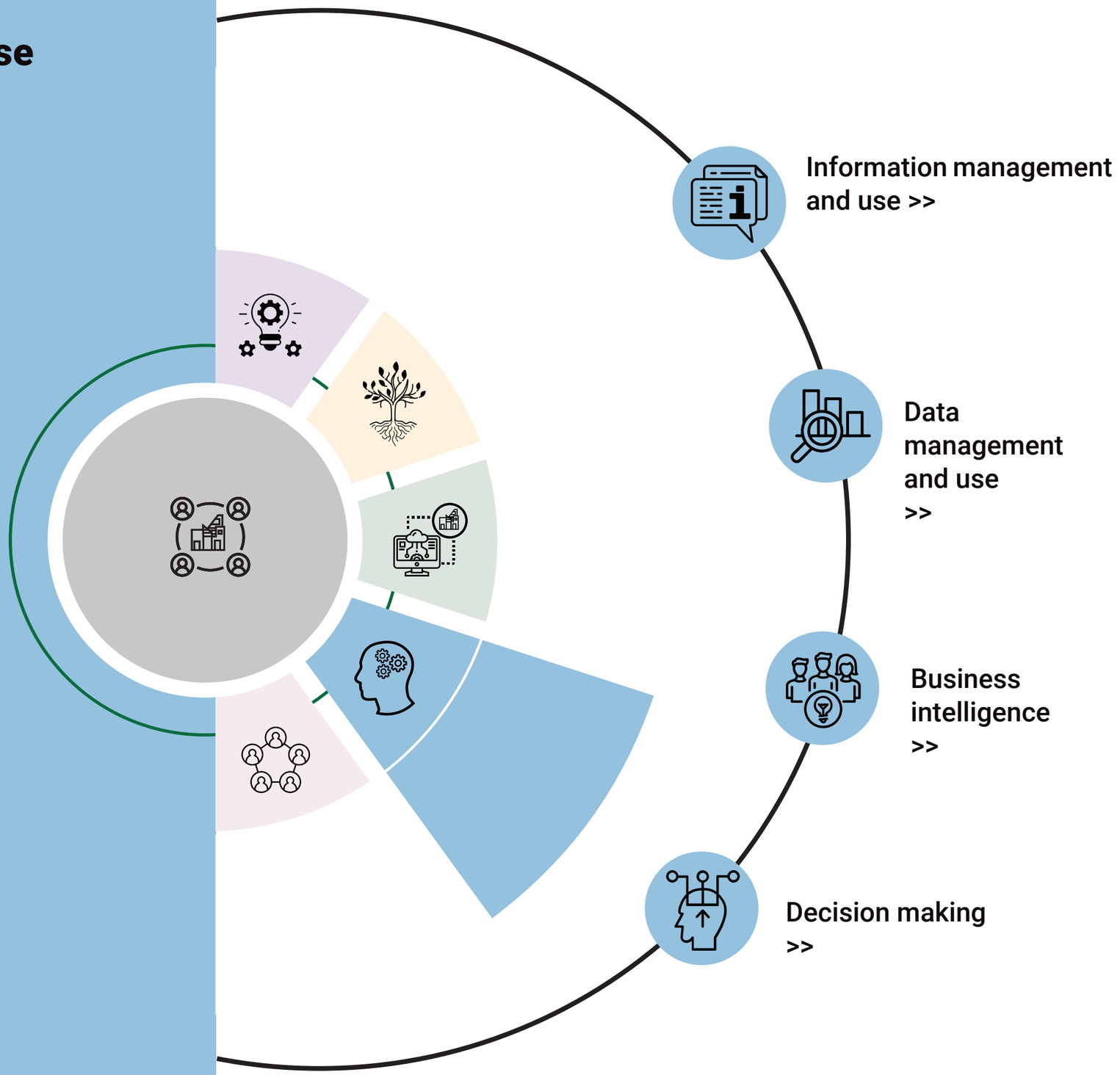
Use technology to provide consistent experiences for students from pre-enrolment to post-qualification.

Examples of activities that might be done

- Embrace the notion of presence (for staff and students) which can be demonstrated synchronously or asynchronously as an alternative to contact hours
- Include the digital wellbeing of students in wider student wellbeing initiatives and services
- Take an active interest in the digital experience of learners through research, surveys and/or consultations
- Use technology to provide personalised, adaptive learning and assessment
- Provide effective careers support, employment brokering and employment-based skills development, through a balance of technological and in-person approaches
- Survey students to find out about their access to technology, connectivity, and learning spaces before they start their course to find out what additional support they might need
- Ensure that international and TNE students have the support they need to experience a sense of belonging and learn effectively
- Consider the global mobility of students and the impact this might have on access to services, learning and support

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.



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 and that provided by third parties.

Areas / principles / values
Collection management | Digital information | Digital media | Digital preservation | Information literacy | Information strategy | Information storage and retrieval | Library and learning resources | Management information | Study spaces

Broad activities
Develop an information strategy for the organisation; establish policies and protocols for information management and compliance.

Ensure that library and information services provision reflects the needs of stakeholders and works to build trusted relationships with users to ensure appropriate strategic change.

Invest in systems for managing information across the organisation; undertake innovation projects to support strategic goals.

Support the organisation's library and information staff, helping them to develop and use their expertise in data and information management, IPR and licencing, digital resources, open publication, open educational content, information literacy, digital preservation, learning and teaching, digitisation of resources, and collections management.

Provide a supportive, enabling environment for the development of staff/student information literacies; ensure information literacies are included in courses of study, researcher development and staff development.

Enable recruitment, development and retention of specialist library and information staff.

Ensure that staff are able to gather, collate, manage and use organisational digital information to support business processes and service provision.

Develop policies for the effective digital management of intellectual property (IP) produced through research, learning, teaching and external partnerships.

Develop/purchase, curate and preserve appropriate digital library and archival collections to support digital scholarship, blended and research-based learning, and widening participation priorities (eg computational approaches to research, collections as data).

Examples of activities that might be done

- Use digital information to support effective organisational planning and decision making, problem solving, and monitoring organisational performance
- Ensure that staff and students can critically evaluate digital information in terms of its accuracy, provenance, relevance, value and credibility
- Produce guidelines on copyright, data protection, information security, open licencing, and IPR so that staff and students are fully informed around legal requirements and organisational principles
- Investigate the use of AI in the provision of information/library services
- Identify responsibility for the archiving of the organisation

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.

Areas / principles / values
Business processes and operations | Compliance | Cyber security | Data architecture | Data analytics | Data ethics | Data literacy | Data privacy | Data quality | Data strategy | Enterprise architecture | Ethics | Security and business continuity

Broad activities
Develop a digital data strategy (possibly as part of a broader digital strategy) that highlights a coherent approach to business intelligence through effective investment, implementation, digital preservation and interpretation/analysis.

Ensure that enterprise architecture is up to date and related to the development of changing business concepts, processes and solutions.

Invest in a robust data architecture (models, policies, rules and standards for gathering, managing, analysing and using data).

Establish appropriate governance and responsibilities for data across the organisation, including protocols for data quality, management and compliance.

Undertake innovation projects and investigations in, for example, research data management, learning analytics.

Engage with stakeholders to develop policies on the safe, ethical management, archiving and use of personal digital data by the organisation.

Provide leadership and best practice guidance to help stakeholders protect themselves and their data.

Enable recruitment, development and retention of staff with appropriate data skills across the organisation.

Ensure that staff are trained and supported to use organisational data according to their job roles.

Collect data on specific groups of students for data requirement mapping (eg international students, TNE data from overseas partners, disabled students, carers).

Examples of activities that might be done

- Review existing policies and practices to reform and upgrade data management practices, systems and services
- Engage with stakeholders to understand and critique the role of data in the organisation, and more widely in society
- Share data openly (where this does not conflict with data privacy and security) for societal learning and scholarship
- Identify all sources of data across the organisation to support a better understanding of the learner experience and to use this to improve learner outcomes (eg use of library resources, engagement with the VLE etc)

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.

Areas / principles / values
Baselining | Benchmarking | BI strategy | Business continuity planning | Digital leadership | Digital strategy | Ethical systems and processes | Forecasting | Horizon scanning | Management information | Market intelligence | Openness and transparency

Broad activities
Develop a 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.

Establish mechanisms to gather useful market intelligence to enable baselining and benchmarking that informs strategy and investment.

Ensure that business intelligence systems, policies and processes are reliable, ethical, sustainable and legal.

Ensure that systems, policies and practice around different types of digital content are aligned; develop organisation-wide confidence and understanding around different purposes and potential use of digital content and information.

Ensure that staff have the right mix of technical and analytical skills to work with the business to understand requirements, support development, build reporting and visualisations.

Examples of activities that might be done

- Gather market intelligence to benchmark institutional position (eg research performance)
- Ensure leaders and governors are aware of digital transformations in industry, education and business sectors and support new practices and approaches into the organisation as appropriate (eg curriculum development, knowledge practices)
- Consider how information is used in the institution and highlight this (eg local Labour market intelligence to identify career opportunities for students, student admissions trends to consider future size and shape)
- Gain consensus on priorities for reporting - what information is essential for decision making and who should provide it
- Provide access to appropriate user-defined data dashboards for people in different roles across the organisation
- Create a roadmap for the implementation of business intelligence services, considering interim measures where needed
- Prioritise the collection of data needed to achieve goals (eg attendance monitoring in place for learner analytics)

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.

Areas / principles / values
Digital confidence | Digital evidence | Digital fluency | Digital leadership | Digital vision | Problem solving

Broad activities
Establish and use integrated organisational systems and digital tools to collect digital evidence to inform decision making and in support of quality/compliance.

Enable effective use of digital evidence and digital tools to support leadership and management across the organisation.

Enable digital leaders to ask effective questions that inform future planning and devise varied approaches to gathering evidence from different stakeholder groups.

Commit to breaking down organisational silos to share best practices and optimise decision-making processes.

Ensure horizon-scanning activities inform day-to-day decision making.

Ensure digital strategy and organisational values inform decision making at every level.

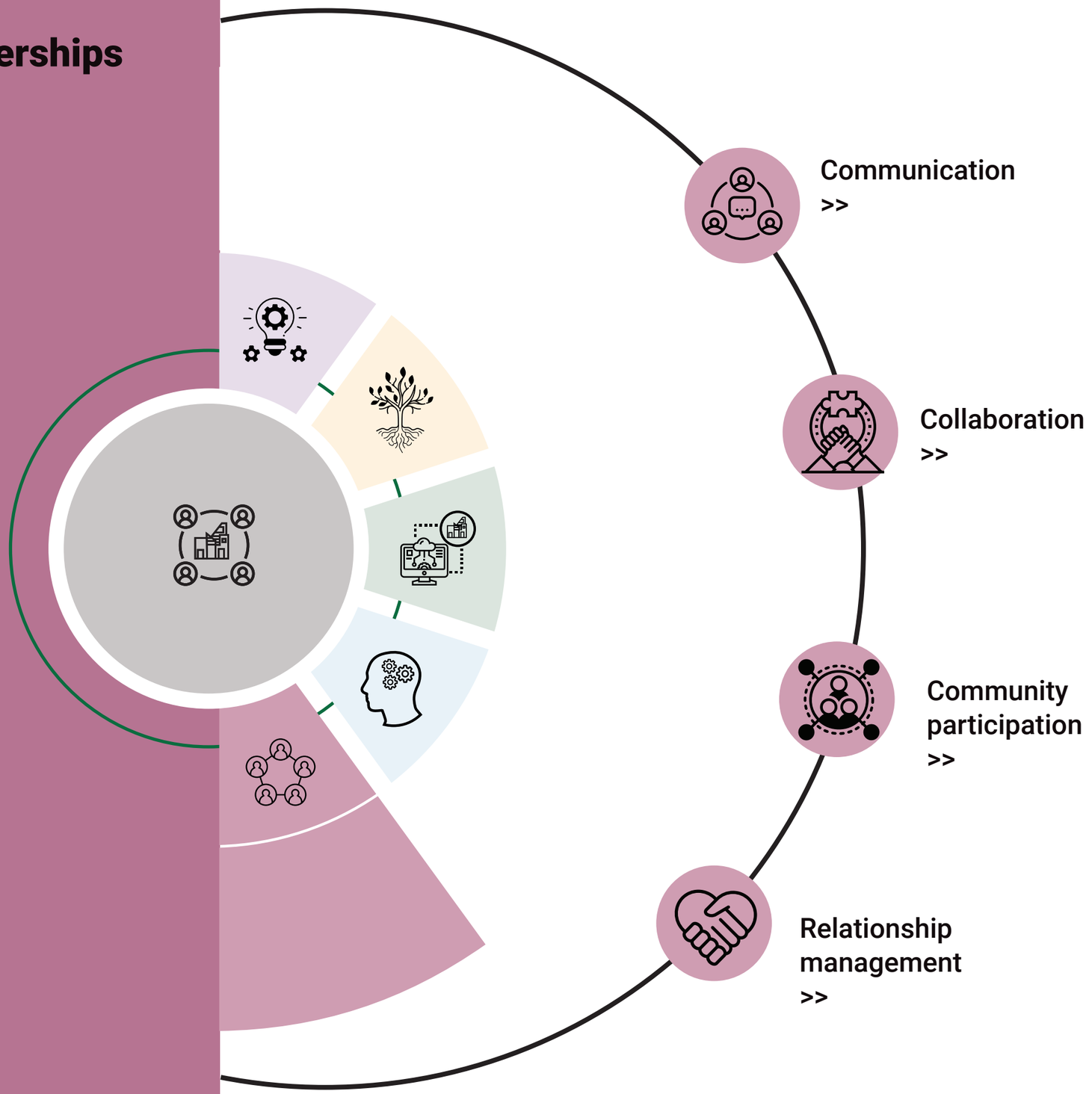
Involve learners, teachers and researchers as key stakeholders in decision making about digital infrastructure, strategy and curriculum.

Examples of activities that might be done

- Understand business processes in different contexts across the organisation and how digital enables and constrains these (eg education, research, support)
- Give governors and senior leaders access to information and data to support decision making and planning

Knowledge exchange and partnerships

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



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.

Areas / principles / values
Accessibility and inclusion | Digital communication | Digital etiquette | Digital media | Digital networks | Marketing and communications | Organisational communication | Social networking

Broad activities
Invest in infrastructure for digital communication, internally and externally.

Promote a democratic style of communication as suited to a digital organisation; develop internal networks for knowledge exchange and practice sharing.

Promote respectful communication in digital media; embed digital communication skills into courses of study and staff development opportunities. Establish guidelines and support to ensure that digital media complies with accessibility regulations and to the wider organisational aspirations around accessibility and inclusion.

Invest in infrastructure for digital media production and dissemination, ensuring these services are available to all in the organisation who can benefit.

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

Examples of activities that might be done

- Work with stakeholders to create digital communication guidelines that are inclusive (eg codes of conduct, email etiquette, managing online behaviour)
- Establish a culture of zero tolerance to online harassment and bullying
- Work with stakeholders to consider how different digital formats and messages achieve different purposes and how far digital media and networks influence social behaviour
- Develop guidelines for online synchronous and asynchronous communication approaches to ensure a consistent and fair experience is had by all stakeholders

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.

Areas / principles / values
Accessibility and inclusion | Community collaboration | Digital collaboration | International activities | Open sharing | Staff collaboration | Student collaboration

Broad activities
Invest in digital environments for collaboration, internally and externally.

Support knowledge sharing and exchange through open practices such as the release of open educational materials, open courses, open scholarship and publication; embed collaborative experiences into courses of study and staff development.

Promote collaboration across organisational boundaries (eg in project teams and working groups).

Identify opportunities and risks involved in creating a broader culture of digital collaboration; develop appropriate policies and protocols.

Identify new opportunities for international collaboration across all areas of business activity (eg research, teaching).

Examples of activities that might be done

- Ensure that systems and procedures for safe and secure data sharing support collaborative activities across the organisation
- Work with stakeholders to create rules and guidelines for effective and inclusive digital collaboration within and outside the organisation
- Consider how to work with TNE partners to share systems and technologies and identify potential challenges and risks

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.

Areas / principles / values
Accessibility and inclusion | Building digital communities | Digital participation | Local community | Regional growth | Sense of belonging

Broad activities
Promote digital participation across the organisation, using digital tools to engage, consult and make effective decisions.

Develop and adopt digital networks to promote and encourage external collaboration and partnership with local, national and global stakeholders.

Develop services and activities that support access, inclusion, and equity of opportunity for all stakeholders.

Assess levels of digital poverty affecting different stakeholders and take mitigating actions where appropriate.

Translate fundamental, applied and practice-based research into knowledge exchange and economic and social impact in collaboration with the wider public and voluntary and commercial sectors which undertake, design, and use research.

Examples of activities that might be done

- Contribute towards local and regional industry and business to drive innovation and economic growth
- Link with cultural and social initiatives in the local community or region to enrich the experience of staff and students and encourage social and environmental change

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.

Areas / principles / values
Business and industry | Customer relations | Employer relations | External relations | Human resources | International activities | Local community | Partnerships | Stakeholder engagement |

Broad activities
Develop and lead a consistent and coherent relationship management strategy which includes engagement with internal and external stakeholders according to strategic objectives (eg employers, local businesses, researchers, learners, alumni).

Develop systems and services to support effective customer relationship management (CRM) (eg single point of truth, integrating legacy systems).

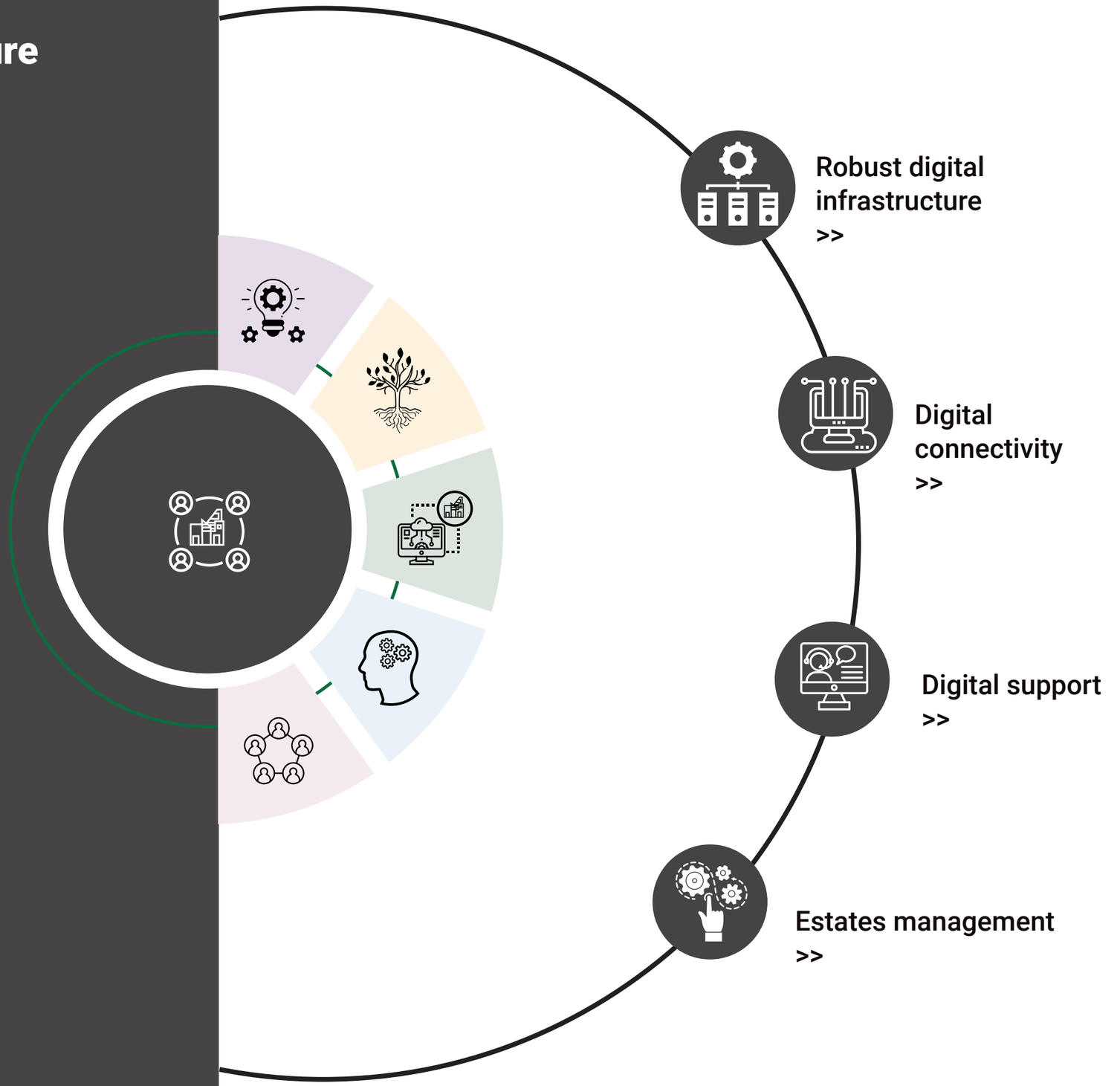
Use digital networks and media to build partnerships, connect sites of learning, carry out public/business/community engagement, and to promote the vision and identity of the organisation.

Examples of activities that might be done

- Enable and encourage students to develop and build relationships with potential local, regional, national and international employers
- Develop and maintain strong and lasting relationships with alumni

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.

Areas / principles / values
Horizon scanning | International activities |
Local/Regional/National contexts and intelligence | Sector intelligence

Broad activities
Stay up to date with developments in technology and infrastructure; assess developments in light of strategic priorities, benefits, organisational opportunities and risks.

Evaluate, plan for, procure, and/or develop digital solutions to support advanced digital practices and prepare for future user needs.

Assess the levels of digital maturity across all areas of the organisation to inform strategy and planning.

Examples of activities that might be done

- Establish horizon scanning activities that enable all stakeholder groups to participate and contribute
- Encourage the development of shared local and institutional evaluation plans, methods and procedures

Areas / principles / values
Corporate strategy | Digital leadership | Digital strategy | Governance |
IT strategy | Stakeholder engagement

Broad activities
Develop and lead a coherent and flexible digital strategy that reflects organisational priorities and values and can adapt to unanticipated needs.

Engage all stakeholders in the shared vision articulated in the digital strategy.

Encourage governors to feed into digital strategies and ensure boards include members that understand the impact of digital innovations on different business operations (eg learning, teaching and assessment, research, enterprise activities, human resources, security).

Examples of activities that might be done

- Carry out regular review audits to map data flows, workflows and processes across different functions to inform digital strategy going forward
- Ensure digital planning is coordinated with other relevant plans and strategies (eg estates, learning, teaching and assessment, student experience, research, information and communication, international, IT, corporate plan)
- Develop a cross-organisational steering group to take forward digital strategies and plans
- Implement strategic digital visions as appropriate through digital leadership and effective governance (eg cloud-first, mobile-first, digital-first, people-first, sustainability)

Areas / principles / values
Application architecture | Business continuity planning | Business processes and operations | Digital leadership | Enterprise architecture | Governance | Investment | Sustainability

Broad activities
Secure university leaders' support for strategic investment in transformative digital, data, and technology.

Develop a sustainable long-term investment plan to ensure that the organisation can procure and/or develop, implement, manage and maintain IT systems, devices, platforms and services to achieve business goals and meet the diverse needs of stakeholders.

Ensure investments reflect the total cost and resourcing required to ensure the organisation achieves value for money (eg capital and revenue expenditure, staffing, training).

Review systems and processes to streamline business operations to improve efficiency and effectiveness - standardise where appropriate.

Examples of activities that might be done

- Balance investment and effort to both refresh, consolidate and/or integrate existing/legacy systems and services and develop new ones as appropriate
- Plan for changing investment and procurement in the switch from majority capital expenditure to majority revenue expenditure (eg move to cloud services)
- Plan for a balanced investment between fixed computing and resources/facilities for personal device use (eg under a bring-your-own or leasing policy)
- Coordinate software purchasing, licensing, and access across diverse parts of the organisation to maximise efficiency and availability
- Engage with partners to identify opportunities for external investment in digital equipment or resources

Areas / principles / values
Accessibility and inclusion | Digital poverty | Environmental sustainability | Requirements gathering

Broad activities
Identify and understand the technology needs of different stakeholder groups through appropriate consultation and engagement.

Establish a safe and transparent digital environment for all stakeholders that aligns to the same standards and experience of physical environments.

Ensure digital infrastructure decisions meet the requirements of broad organisational goals relating to access and inclusion, sustainability and environmental impact.

Examples of activities that might be done

- Ensure digital infrastructure planning and decisions take account of the diverse needs of staff and students, particularly those at risk of exclusion through issues such as poverty, disability, mental health, physical location, language, or any other access difficulties.
- Ensure that digital infrastructure decisions and activities do not create barriers to participation, working or learning
- Ensure digital infrastructure planning and decisions are considered against organisational targets for environmental sustainability (eg energy use, carbon footprint, net zero)
- Ensure that virtual environments reflect and are representative of diversity in the real world
- Provide opportunities for all stakeholders to proactively engage in the design of the digital environment

Areas / principles / values
Cyber security | Enterprise architecture | Security and business continuity

Broad activities
Ensure digital infrastructure planning, investment and decisions support safe, secure, consistent and reliable business processes.

Develop, test and refine business continuity plans to ensure high availability of systems and that university activities continue without disruption.

Examples of activities that might be done

- Provide and maintain secure systems, services and content (eg cyber security protections and protocols)
- Establish an incremental plan, targets, and roadmap to implement and/or integrate new systems, platforms, or applications to ensure minimum disruption to established business activities

Areas / principles / values
Data architecture | Data creation and management | Data privacy

Broad activities
Adopt a data-driven approach for a digitally enabled and efficient organisation that supports functions such as finance and payroll, human resources, marketing and student recruitment, progression and attainment, student experience.

Examples of activities that might be done

- Develop and support systems and services to enable effective and ethical collection and use of high-quality, secure data (eg business intelligence architecture, data centres, data dashboards, high performance computing (HPC), data visualisation) and procedures

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.

Areas / principles / values
Accessibility and inclusion | Business continuity planning | Building digital communities | Cyber security | Digital poverty | Digital networks | Security and business continuity

Broad activities
Establish and maintain highly-available bandwidth, primary and resilient network connections to ensure sufficient capacity to meet current, and projected future demands of online services.

Provide access to systems, services and content for staff and students from any location, on and off-site, safely and securely, maintaining the confidentiality and integrity of data.

Understand, establish and maintain cyber security protections, accreditation, support and protocols.

Identify and understand the connectivity needs of different stakeholder groups through appropriate consultation and engagement.

Ensure that secure access to organisational digital networks meets the diverse needs of staff and students, particularly those at risk of exclusion through issues such as poverty, disability, mental health, physical location, language or any other access difficulties.

Provide integrated tools and platforms to provide a range of choices for students to connect both on and off-campus, and to support the development of a sense of belonging, wellbeing and relationships with others.

Enable recruitment, development and retention of staff with cyber security expertise. Invest in a programme to increase cyber security awareness and expertise in existing staff through training and support.

Examples of activities that might be done

- Establish organisational guidelines for the impact of digital connectivity on the environment; suggest ways to mitigate this through changing practice (eg carbon footprint of email sending and storage)
- Carry out ongoing monitoring of network usage, performance, and capacity, and highlight aspects that present current or future challenges (eg e-sports, e-science)
- Ensure websites, digital services, and apps provided through the organisation are accessible across multiple platforms/devices and comply with accessibility standards and regulations
- Ensure no one is disadvantaged due to accessing services and systems that are outdated and less secure
- Consider the challenges of global interconnectivity, technical impacts and potential restrictions
- Establish appropriate plans and policies that specifically focus on data privacy and ethics, and cyber security issues that are unique to work-from-home environments
- Expand, upgrade, and adopt digital security measures such as multi-factor authentication, password tools, threat detection, monitoring, ransomware protection software, and endpoint and wifi security
- Work to achieve ISO 270001 certification to manage information security
- Work with and access specialist services to support incident response, forensics and the recovery of organisational digital estates to mitigate the impact of attacks
- Access appropriate services to support cyber security activities (eg Cyber Essentials), and participate in events and activities to support threat intelligence sharing

Digital support

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

Areas / principles / values
Digital champions | Digital capability | Digital learning champions | Learning technologists | Staff support | Student support

Broad activities
Enable recruitment, development and retention of specialist IT staff in central services and in the wide range of other roles that require specialist digital expertise.

Develop and manage IT support teams, and develop and/or procure IT training resources; ensure a balance between live training and on-demand resources, support for organisational systems and cloud-based services, and support for personal devices and services. Provide a range of synchronous and asynchronous remote help-desk services.

Examples of activities that might be done

- Manage roll-out and training for new digital systems and major updates
- Establish a shared understanding of the differences between IT support and supporting a range of different digital practices (eg digital learning, digital research, data analytics)

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.

Areas / principles / values
Digital strategy | Environmental sustainability | Estates strategy | Intelligent campus | IT strategy | Learning environments | Learning spaces | Library and learning resources | Study spaces

Broad activities
Plan an estates strategy that integrates virtual with physical infrastructure.

Ensure that estates strategies and plans incorporate the notion of intelligent environments where connected devices and sensors generate data on estates usage that can inform decision making.

Involve diverse digital users in planning new builds and refurbishments.

Develop and manage systems to support physical and remote access to, and effective use of, a range of multi-use physical spaces and equipment.

Examples of activities that might be done

- Carry out a full audit of teaching rooms, their 'purpose' or configurability, and the equipment in them, including rooms with specialist facilities
- Streamline systems across the organisation to facilitate room and equipment booking and measure room use to ensure physical spaces support current practice
- Utilise data from intelligent environments to identify traffic and use of campus spaces to support ongoing improvement and development
- Provide virtual tours for people who cannot access physical spaces
- Provide a variety of bookable hybrid and virtual spaces
- Include the effective pedagogical use of learning spaces and equipment in the plan for developing digital capability of teaching staff and provide training materials and support for staff and students using the spaces
- Consider furniture, room layout, technology use and pedagogical approaches in different learning spaces to ensure flexible options are available. Consider limitations that may impact on teaching and learning in a blended/hybrid context
- Assess the level of technical support required to adequately maintain (and keep current) the large number of technology-equipped rooms. Ensure that a sufficient and appropriate mix of technical, administrative and teaching support is available

Further reading and index

Further reading

The framework has been informed by:

Jisc publications

- Beetham, H. and MacNeill, S. (2022). Approaches to curriculum and learning design across UK higher education. Bristol: Jisc. Available at: https://beta.jisc.ac.uk/reports/approaches-to-curriculum-and-learning-design-across-uk-higher-education

- Iosad, A (2020). Digital at the core: a 2030 strategy framework for university leaders. London: Emerge Education; and Bristol: Jisc. Available at: jisc.ac.uk/guides/digital-strategy-framework-for-university-leaders

- Jisc (2018). Developing digital capability: an organisational framework. Bristol: Jisc. Available at: https://repository.jisc.ac.uk/6610/1/JFL0066F_DIGICAP_MOD_ORG_FRAME.PDF

- Pauli, M. (2021). Rethinking assessment. Bristol: Jisc. Available at: https://beta.jisc.ac.uk/reports/rethinking-assessment

- Skelton, N. (2023). Digital strategies in UK higher education: making digital mainstream. Bristol: Jisc. Available at: https://beta.jisc.ac.uk/reports/digital-strategies-in-uk-higher-education-making-digital-mainstream

Jisc resources

- Jisc. Digital leaders programme. Available at: https://www.jisc.ac.uk/training/digital-leaders-programme

- Jisc. Digital elevation tool. Available at: https://beta.jisc.ac.uk/digital-elevation-tool

Digital transformation models and frameworks

- Brooks, D C and McCormack, M (2020). Driving digital transformation in higher education. Boulder, CO: EDUCAUSE. Available at: educause.edu/ecar/research-publications/driving-digital-transformation-in-higher-education/2020/introduction-and-key-findings [accessed September 2022].

- Deloitte. Digital transformation. Available at: deloitte.com/global/en/our-thinking/insights/topics/digital-transformation.html

- EAB (2021). Digital transformation: foundational capabilities and high-impact investments to keep your campus relevant in a digital era. Washington DC: EAB. Available at: https://eab.com/wp-content/uploads/2021/05/PDF-ITF-Digital-Transformation-Brief.pdf

- EDUCAUSE (2022). Digital transformation is the future of higher education. Boulder, CO: EDUCAUSE. Available at: https://dx.educause.edu
- Microsoft. Digital transformation, accelerated. Available at: microsoft.com/en-gb/industry/digital-transformation
- MIT. 5 building blocks of digital transformation. Available at: https://mitsloan.mit.edu/ideas-made-to-matter/5-building-blocks-digital-transformation
- UCISA Enterprise Architecture Group (2022). The Higher Education Reference Models (HERM). Available at : ucisa.ac.uk/Groups/Enterprise-Architecture-Group/HERM

Knowledge practices

Bassett, R.M. (2021). *"From University to Multiversity to Omniversity: HEIs as Hubs for Dynamic Development"*. In: van't Land, H., Corcoran, A., Iancu, DC. (eds) The Promise of Higher Education. Springer, Cham. Available at: https://doi.org/10.1007/978-3-030-67245-4_59

Goetze, T. *"The concept of a university: theory, practice, and society."* Danish Yearbook of Philosophy, 52 (1). pp. 61-81. ISSN 0070-2749 Available at: https://doi.org/10.1163/24689300-05201001

Karlgren, K.; Paavola, S. and Ligorio, M.B. (2020) *"Introduction: what are knowledge work practices in education? How can we study and promote them?"*. Research Papers in Education, 35:1, 1-7, DOI: 10.1080/02671522.2019.1677761

Kerr, C. (1963). *"The Uses of the University"*. Harvard University Press.

Leonard, D. and Barton, M. (2013) *"Knowledge and the management of creativity and innovation"*, in Dodgson, M.; Gann, D.M. and Phillips, N. (eds). The Oxford Handbook of Innovation Management (2014; online edn, Oxford Academic, 16 Dec. 2013), Available at: https://doi.org/10.1093/oxfordhb/9780199694945.013.005

Merx-Chermin, M. and Nijhof, W. J. (2005). *"Factors influencing knowledge creation and innovation in an organisation"*. Journal of European Industrial Training, 29(2), 135–147. Available at: https://doi.org/10.1108/03090590510585091

O Riordan, N. (2013). *"Knowledge creation: Hidden driver of innovation in the digital Era."* International Conference on Information Systems (ICIS 2013): Reshaping Society Through Information Systems Design. 3.

Rodríguez-Abitia, G. and Bribiesca-Correa, G. *"Assessing Digital Transformation in Universities."* Future Internet 2021, 13, 52. Available at: https:// doi.org/10.3390/fi13020052

Index

Find your Jisc relationship manager ji.sc/contact-relationship-manager – we are ready to discuss any, or all aspects contained within this report.

Jisc
4 Portwall Lane,
Bristol BS1 6NB
0300 300 2212

help@jisc.ac.uk
jisc.ac.uk
@Jisc