Digital Planning Framework
2018-19 to 2019-20

September 2018
1 Executive Summary

Queen’s University is engaged in a digital planning process that will result in a digital strategy supporting the university’s core mission of learning and research, under the umbrella of the university’s Strategic Framework. While Queen’s has many digital strengths to build upon, community consultations have raised a variety of issues to be addressed across the university, such as the user experience of students and faculty, access to data, protection of privacy and security, and opportunities such as artificial intelligence, to name just a few.

The Digital Planning Framework articulated in this document has been informed by a series of steps undertaken in 2017-18. It includes: observations from an environmental scan providing a high level overview of the digital landscape associated with universities; insights from discussion groups involving Queen’s faculty, students and administrative staff; a foundation of five overarching recommendations and seven guiding principles for Queen’s digital strategy; and a digital maturity model by which we can assess our progress. The Digital Planning Framework sets the following goals and objectives for a two-year timeframe, 2018-19 to 2019-20:

1. Building the vision
   - Engaging the community in developing a shared understanding of digital opportunities
   - Developing an integrated view of needs and developments across portfolios

2. Building the foundation
   - Implementing key IT enablers
   - Establishing digital strategy governance

3. Building momentum
   - Continuing to gather input on digital needs and priorities through existing pathways
   - Establishing interim decision-making authority for the Digital Planning fund

This Digital Planning Framework will move us towards the full articulation of Queen’s University’s digital strategy in 2020, as summarized in the figure below.
2 Introduction

2.1 WHY A DIGITAL STRATEGY?

Digital experiences are now infused in our everyday lives and they set the expectations of our students, faculty and staff as they interact with university services and go about their learning, teaching and research. Those expectations are only going to increase in the very near future, as digital advances such as artificial intelligence provide new opportunities for transforming the way we work, teach, learn, research and share knowledge.

Queen’s has considerable digital strengths distributed across the university in individual faculties, labs, classrooms and shared services. Those strengths have grown organically and pragmatically, to meet the immediate needs of students, faculty and staff. In units that have been able to invest heavily in IT, we’ve seen significant nimbleness and innovation. At the same time, people across the faculties and shared services are raising issues that point to a need to look more holistically across the university at our digital future. Those issues include:

- sub-standard user experiences for students, faculty and staff;
- a lack of data governance and interoperability across systems that makes basic data access very challenging and advanced data analytics impossible;
- significant risks relating to IT security and network strengths;
- insufficient qualified personnel to support research and teaching with technology;
- significant gaps in digital research infrastructure, such as sustained support for advanced research computing, data storage and data preservation;
- lack of sustainable funding and mechanisms for priority-setting and decision-making for the digital learning ecosystem;
- administrative workflows based on processes developed for an analog era and ineffective mechanisms for setting priorities for administrative systems developments;
- while Queen’s is actively engaged in some external collaborative digital initiatives, there is more that could be done across institutions, such as reviewing and/or purchasing common tools;
- there is a need to better understand which elements of digital infrastructure are best handled by distributed units and which are best provided centrally: we need to know more about the benefits, costs, risks, legal liabilities and user experiences of various scenarios.

It is important to note that Queen’s future will be determined not by technology, but by our vision for our core mission of learning and research in the digital age. A digital strategy will enable the university to achieve that vision.
2.2 PURPOSE OF THE FRAMEWORK

The purpose of this Digital Planning Framework is to enable the development of a digital strategy for Queen’s University. The digital strategy will define and implement the university’s vision for its core mission of learning and research, as seen through a digital lens. This digital planning encompasses digital research infrastructure, the digital learning ecosystem, and foundational enablers such as our administrative systems. Digital planning is as much about human resources, policies and processes as it is about technical infrastructure.

2.3 DEVELOPMENT PROCESS FOR THE FRAMEWORK

Launched in December 2017, the project to establish a Digital Planning Framework has been facilitated by the university’s Digital Planning Project Group (see section 7). This group was tasked with:

- Developing a shared understanding of digital opportunities across the university community
- Affirming a set of principles that will be the foundation of an institutional digital strategy
- Identifying Queen’s digital strengths, weaknesses, opportunities and threats, and
- Establishing a governance model that enables digital strategy development and ongoing planning and assessment.

The Digital Planning Framework has been informed by:

- **Environmental Scan**: By March, 2018, the Digital Planning Project Group had completed an environmental scan of digital strategies in higher education, identifying emerging themes as well as highlighting a cross-section of strategies developed by multiple public and private sector organizations.
- **Engagement of the Campus Community**: As an initial phase of engagement, in March and April, 2018, the Digital Planning Group sponsored a series of discussion groups to better understand how digitization is affecting higher education generally as well as Queen’s specifically, and to elucidate the principles, processes and priorities that should be the focus of the university’s digital deliberations.
- Development of **Guiding Principles** for Queen’s digital strategy.
- Creation of a **Digital Maturity Model** to position Queen’s on the journey to a fully-developed approach to digital planning.
- **Delineation of Governance Models**: Preliminary work was undertaken in 2017-18 and will advance further in 2018-19.

The Digital Planning Project Group contracted with Kathryn Wood of *Pivotal Momentum Inc* for assistance in the first four components, which will also help inform the fifth.
3 Digital Opportunities and the Queen’s Context

3.1 ENVIRONMENTAL SCAN

Based on a review of public domain documentation related to digital strategies in higher education, an environmental scan has been compiled to provide a high level overview of the digital landscape associated with universities. Several observations are particularly relevant to consider at Queen’s:

1. Comprehensive digital strategies in institutions of higher education are relatively rare.
2. Digital strategies at most institutions tend to fall into sub-categories, such as:
   a. ‘Digital by default’ signifying an institutional shift
   b. Digital administrative/operational functions such as financial management
   c. Digital marketing/brand functions such as web presence, social media
   d. Digital experience for students, such as tools for individual and collaborative use
   e. Digital literacy or skill sets, through new program/course content
   f. Digital support for faculty for teaching and research
   g. Research ‘on’ impact of digital technology on society, learning, etc
   h. Research ‘on’ digital technologies development
   i. Research ‘using’ digital technologies, in all disciplines
   j. Data-focused strategies on institutional data and/or research data
3. Data is in high demand – for institutional purposes such as accountability and service personalization as well as research and teaching – and challenging to manage.
4. Digital bridges institutional boundaries and expands opportunities for external collaboration, while also posing challenges to privacy and security.
5. Digital navigation and discoverability within and outside the institution is often an issue.
6. Human considerations may well be the biggest challenge, from digital skills and change management to the inclusivity of digital offerings.
7. Digital governance must take into account long-standing interests organized along specific faculty/discipline lines while recognizing that digital technologies and data move across these governance boundaries.
8. The rapid pace of change is a challenge for academic institutions that are used to longer term commitments (e.g. making capital investments expecting a long lifecycle).

3.2 QUEEN’S DISCUSSION GROUP INSIGHTS

In discussion groups with Queen’s faculty, students and administrative staff, comments often reflected the themes observed in the environmental scan and provided insights specific to supporting learning and research at Queen’s. Topline insights are as follows.
1. **Mission critical: digital is changing everything.** From teaching and learning to research to administrative functions, the digital age is changing the paradigm of higher education.

2. **Community: digital isn't everything.** High contact interaction between faculty and students is highly valued, as is the Queen’s campus experience. Care must be taken to maintain, and use technology to enhance, our strong sense of community.

3. **High expectations.** Institutional innovation is judged by personal digital experience, and expectations are high. Students consider their digital experience in choosing an institution or program, and there is an expectation for a pervasive digital presence or persona throughout their Queen’s experience. Faculty and staff expect a digital persona as well, from the performance of administrative and other systems that all campus stakeholders use every day to the capacity and responsiveness of IT services to their desire for customization of their work and employment relationship with Queen’s.

4. **Queen’s experience online.** Queen’s strong community experience should be extended online; for example, learning supports need to be available online to maintain Queen’s reputation for quality. And digital doesn’t necessarily mean distant. Digital/online options offer greater flexibility for students in scheduling their education. Expectations are rising in terms of self-service options, responsiveness, personalization and social interaction spaces to learn anywhere. Support services traditionally delivered 9 to 5 are now expected to be available 24/7 and equally available to those working online, on campus or both.

5. **Digital literacy.** The pace of technological change means that today’s solutions have a shorter lifespan and continuous learning is an expectation for all staff, faculty and students. This extends beyond technical skills to an understanding of privacy, security, intellectual property, and other similar issues.

6. **Collaboration and agility.** There are opportunities for better optimizing use of IT and human resources across the university. Governance and operating models need to support agility and responsiveness. There needs to be a foundational framework that addresses both institution-wide considerations, such as data governance, and the flexibility to pursue innovation and unit-specific needs.

7. **The time is right to act.** Queen’s needs to seize opportunities to further improve core administrative functions, advance Queen’s reputation for – and ability to delivery on – an exceptional student experience, unleash new forms of innovation, new research capabilities and insights, and expand the institution’s reach and impact. Queen’s has digital strengths to build upon. We are also behind in some ways. Overall there is a sense that if we approach this thoughtfully we can craft a digital strategy that suits us well at this moment in our institution’s history, is aligned with our brand and will support our aspirations.
4 Framework Foundations

4.1 OVERARCHING RECOMMENDATIONS

As the university’s Digital Planning activity continues into 2018-19 to 2019-20 – and ultimately beyond – the Project Group believes it is important to offer some initial observations for consideration across the campus community. It is recommended that:

1. The university acknowledge the depth and breadth of impact of digitization on the way that Queen’s can and should ‘do business’ and the required investments – financial, human and cultural. There is no part of the university that is untouched by the advent of this digital era. From administrative systems, recruiting, and physical and technical infrastructure, to teaching and learning, research, human resources practices, and provision of support services, digital approaches are re-writing universities’ functions, and opening up new opportunities to deliver on the Queen’s mission.

2. The university confirm that the emergent digital strategy must reflect the university’s mission and strategic goals, not just at the institutional level but within its faculties and schools, as well as the central services that support their day-to-day operating realities, the expectations of students, funders, external stakeholders, and other organizations that stay abreast of the fast-changing digital realm and devise collaborative strategies through which higher education can keep pace and pursue opportunity.

3. The university acknowledge that digital strategy will be a ‘living document’ in part because of its ties to the institution’s strategic documents, but also because of the rapid pace of technological change. Users’ needs and expectations change – and grow – rapidly, new technologies generate new opportunities, seemingly overnight, and new challenges such as cybersecurity require prompt responses and proactive approaches. In short, Queen’s interaction with/utilization of digital technologies will require an integrated approach, as part of a suite of issues that will be part of annual institutional planning and budget cycles. We must be agile and adaptive.

4. The university appreciates that for a digital strategy to be successful, engagement across the entire campus community is key. A digital strategy is not only about technology. In fact, it is much more about orchestrating our collective capabilities to achieve institutional strategic objectives. Digital decisions will increasingly be guided by demonstrable value in executing the work of faculty, staff, students and the other stakeholders with whom our campus community interacts.

5. The university confirm the principles that will guide the development of the digital strategy to reflect the characteristics and ambitions of Queen’s University. These principles are presented in the next section of this document.
4.2 GUIDING PRINCIPLES FOR QUEEN’S DIGITAL STRATEGY

The Project Group has drawn from the environmental scan, the campus-wide engagement process, and their own experience in a variety of roles within the university, to develop a set of principles that will undergird subsequent phases of digital strategy development. There will be further opportunities in 2018-19 in which the Project Group can test the foundations of this work with the university community.

Vision Alignment

Our digital strategy’s goals and resource allocations will be aligned with Queen’s vision for the student learning experience and research prominence and address university-wide and faculty-specific priorities.

Community

We envision a digital future driven by our community – a future that enhances human experiences and Queen’s sense of community, on campus and around the world.

Openness

We will leverage digital opportunities to bring Queen’s learning opportunities and research to the world and the world to Queen’s, fully respecting privacy and ethics.

Inclusion

Our digital environment will be designed with diversity and equitable access in mind and will address the needs of all disciplines and areas of study.

Innovation

We will leverage advances in technology with a digital strategy that is adaptable over time and supports the creativity already evident in Queen’s teaching and research.

Collaboration

Innovation and collaboration go hand-in-hand – we need to optimize strengths across and outside the university to enable the agility, efficiency and interoperability required for pervasive digital strength.

Data as a Foundation

Our community has said that the ability to access and manipulate all kinds of data – whether designing services or doing research – is a high need and a significant concern. This must drive the priorities we set.
5 Digital Maturity Model

5.1 WHAT IS DIGITAL MATURITY?

Digital maturity has been defined as: “the process of your (university) learning how to respond appropriately to the emerging digital competitive environment.” (adapted from MIT Sloan, April 2017). In this sense, digital maturity is a yardstick by which an organization can measure its progress toward:

- Being open to re-examining your entire way of doing things and understanding where the new frontiers of value are,
- Rethinking how to use new capabilities to improve how your community is served, and
- Using data to make better and faster decisions, devolving decision making to smaller teams, and developing much more iterative and rapid ways of doing things.

Pursuit of digital approaches is therefore “less of a thing and more a way of doing things”.

(Source: McKinsey & Company)

5.2 WHAT IS A DIGITAL MATURITY MODEL?

A Digital Maturity Model has been defined as “a business tool used to assess the current status of certain capabilities that exist within an organization and help (decision-makers) be clear where these (capabilities) need to transform or improve.” (adapted from TMForum)

Because it is a model, it is important to remember that it is a representation of a person, thing or structure, typically on a smaller scale than the original. For those reasons, it may lose some degree of granularity, comprehensiveness or accuracy simply because it is a representation. Because of the pervasive impact of digitization on an organization as complex as a university, any digital maturity model may have one or more of these weaknesses, at least to some degree. Nonetheless, a model can still be helpful in establishing a baseline as strategy development process moves forward and provides a benchmark against which progress can be measured as a strategy Is implemented.

5.3 DEVELOPMENT OF A QUEEN’S-SPECIFIC DIGITAL MATURITY MODEL

The Digital Planning Project Group believes that a Digital Maturity Model may offer several benefits to the university community. The Model can:

- Pinpoint areas of greatest challenge and/or risk,
- Assess current status and past actions,
- Identify (and celebrate!) progress/wins,
- Identify areas of greatest opportunity,
As a ‘neutral’ tool to engage stakeholders in:
  - Broad digital planning
  - ‘Drill down’ planning for specific areas,
  - Be used as a high-level project management and reporting tool, and
  - Serve as a communications tool within and outside the University (with different levels of granularity for different audiences).

After reviewing a cross-section of digital maturity models, the Project Group chose to work with and adapt one of the Gartner Maturity Models to a university environment. The draft Queen’s Digital Maturity Model below retains Gartner’s five levels of maturity but adapts the descriptions to better suit the higher education sector.

*Table 1: Draft Queen’s Digital Maturity Model - Key Characteristics*
### 5.4 AN INITIAL BASELINE ASSESSMENT OF QUEEN’S

**Table 2: Draft Queen’s Digital Maturity Model – Assessment of Three Types of Alignment**

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<th>LEVEL 3: EMERGING</th>
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<th>LEVEL 5: OPTIMIZING</th>
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**Note:** Intensity of colour indicates concentration of assessment, where L = Low, M = Medium, H = High and X = Very High
6 Goals 2018-19 to 2019-20

The Digital Planning Project Group has identified a set of goals within this Digital Planning Framework, as building blocks for Queen’s digital strategy. A two-year timeframe has been adopted for two reasons: (1) it will allow for a focus on the capabilities required to enable the university to seize transformative digital opportunities; (2) in 2019, the university will appoint a new Principal and extend the Queen’s Strategic Framework 2014-2019 to the year 2020, leading to a new strategic plan.

6.1 BUILDING THE VISION

With the appointment of a new Principal in 2019 and the conclusion of the current five-year Strategic Framework, the university will rearticulate its vision for its core mission of learning and research. As noted earlier, the university’s digital strategy will view that vision through a digital lens and define and implement the means to support it. In the meantime, the Digital Planning Project Group will undertake initiatives to inform the university’s visioning and strategic planning and frame its digital strategy. This will include:

6.1.1 Engaging the community in developing a shared understanding of digital opportunities

The Digital Planning Project Group will guide activities such as:

- Principal’s Symposium: Imaging our Digital Future, November 26, 2018
- Virtual exhibit highlighting Queen’s strengths in the digital realm
- Discussion groups to review the Digital Planning Framework, in particular with a view to diversity, inclusion and Indigenous perspectives

6.1.2 Developing an integrated view of needs and developments across portfolios

Strategic initiatives of separate portfolios will be represented by individuals on the Digital Planning Project Group, which will endeavour to gain the full picture. This includes:

- Online Education Planning
- Digital research infrastructure, in particular institutional strategies for Advanced Research Computing and Research Data Management
- The Provost’s project on digital opportunities to enhance the way we work

6.2 BUILDING THE FOUNDATION

In 2017-18 the CIO and Associate Vice-Principal (ITS) identified the need for planning in several key IT areas in order for the university to be able to fully seize transformative digital opportunities. This work will continue in 2018-19. The Digital Planning Project Group recognizes that its work in developing an overarching digital strategy governance model will need to be done in sync with many aspects of this foundational IT planning. The group envisions two inter-related actions:
6.2.1 Implementing key IT enablers

The CIO and Associate Vice-Principal (ITS), working with the ITServices team, will continue to develop and implement:

- Cybersecurity Program Plan
- Asset Management and Capital Plan
- IT Operating Model and Operational Plan

6.2.2 Establishing digital strategy governance

The work occurring in 6.1.2 and 6.2.1, along with the framework foundations articulated in section 4, will inform the development of a governance model for determining and supporting digital priorities. Clarity will need to be established around:

- The distinction between IT governance (decisions within established operational responsibilities) and digital strategy governance (emerging strategic priorities)
- Definitions and criteria for centralized, coordinated and independent IT responsibilities across the university
- Intersections between strategic planning in separate portfolios and digital strategy governance
- Budgeting processes, for example the relationship between approval to use resources for implementation of new strategic initiatives and approval for future year base increases for the associated sustainment costs for each project.

6.3 BUILDING MOMENTUM

Concurrent with the goals identified above, there is an urgent need to address immediate priorities. This includes:

6.3.1 Continuing to gather input on digital needs and priorities through existing pathways

Although there are questions to be addressed regarding existing pathways (see 6.2.2), they will continue to be drawn upon in this period. These include:

- Committes and working groups supporting teaching and learning
- Groups associated with the Office of the Vice-Principal Research
- Business owners of administrative systems
- Enterprise IT Advisory Committee

6.3.2 Establishing interim decision-making authority for the Digital Planning fund

The Digital Planning Fund is intended to enable implementation of new capabilities. Although there are budgeting processes to be addressed in establishing an ongoing digital governance model (see 5.2.2), as an interim measure it is recommended that the Digital Planning Project Group have decision-making authority for the allocation of the Digital Planning Fund.
7 Digital Planning Project Group

Launched in December 2017, the initial purpose of the Digital Planning Project Group was to establish a Digital Planning Framework that will enable the development of a digital strategy for Queen’s University. The group was co-chaired by Martha Whitehead, Vice-Provost (Digital Planning) and University Librarian, and Jennifer Doyle, CIO and Associate Vice-Principal (ITS). Its membership included decanal representation (Faculty of Arts and Science), the interim Vice-Principal (Research), the Vice-Provost (Teaching and Learning), the Associate Vice-Principal (Finance), the Associate Vice-Principal (Planning and Budget), and the University Registrar as a representative of the division of Student Affairs. In its first year, the university’s Digital Planning Project Group was tasked with:

- Developing a shared understanding of digital opportunities across the university community
- Affirming a set of principles that will be the foundation of an institutional digital strategy
- Identifying Queen’s digital strengths, weaknesses, opportunities and threats, and
- Establishing a governance model that enables digital strategy development and ongoing planning and assessment.

Going forward in this Digital Planning Framework for 2018-19 to 2019-20 it is recommended that the terms of reference for the Digital Planning Project Group be revised as follows:

**PURPOSE**

To support the goals of the university’s Digital Planning Framework 2019-20 to 2020-21.

**OBJECTIVES**

1. Engage the university community in developing a shared understanding of digital opportunities and developing an integrated view of needs and developments across portfolios, to inform the university’s strategic framework and develop its digital strategy.
2. Build a foundation of key IT enablers and digital strategy governance that will enable the university to seize transformative digital opportunities.
3. Review project proposals for the implementation of new digital capabilities and make decisions on the allocation of the Digital Planning Fund.

**MEMBERSHIP**

This small core team is tasked with engaging stakeholders in the university’s digital planning:

- Barbara Crow, Dean of the Faculty of Arts and Science
- Jennifer Doyle, CIO and Associate Vice-Principal (ITS) (co-chair)
- Michael Fraser, Vice-Principal (University Relations)
- Kent Novakowski, Associate Vice-Principal (Research)
- Fahim Quadir, Vice-Provost and Dean of Graduate Studies
- Jill Scott, Vice-Provost (Teaching and Learning)
- Steve Tanner, Associate Vice-Principal (Finance)
- Ann Tierney, Vice-Provost and Dean of Student Affairs, or delegate
- Martha Whitehead, Vice-Provost (Digital Planning) and University Librarian (co-chair)