

## 2. Introduction

*“Information Technology in the context of a value discussion cannot be limited to hardware and software. Rather the term must encompass the efforts and expenditures made to adapt organizations, processes, and people to take advantage of technology. More often, it is in the marriage of people, process, and technology where value is either created or destroyed.”<sup>2</sup>*

The University of Saskatchewan acquired its first computer in the fall of 1957, a Royal McBee LGP-30. This single computer was deemed sufficient to meet the computing needs of not only our entire campus, but the Saskatchewan Research Council and the NRC Prairie Laboratory as well. We’ve come a very long way in just fifty years. Today there are more than 10,000 computers on campus and everyone is a user.

It’s an accepted fact that Information and Communications Technology (ICT) is critical to success in the contemporary university. As our Foundational Document<sup>3</sup> makes clear ICT has transformed the way we do our work and where we do it—from teaching and learning, to conducting our research, to communicating with colleagues here and afar. It’s affected how we deliver services to “customers” that span every sector of our community and how we support and manage our business processes. Meeting ever-increasing demands is a constant challenge and how we respond is a vital factor in our ability to remain competitive as a preferred place to work or study.

But our responsibilities as ICT professionals extend far beyond the technology. As Dr. Menard Gertler put it in his 2006 Convocation address, “technology that doesn’t help people has no value.” Our jobs are about providing vision and leadership to the campus and bringing value through the services we deliver with the technology.

The past five years were a period of intensive ICT development at the U of S, with significant accomplishments: new technology was put in place to enhance the computing environment for our students and a new approach to planning, provision and management of student computing was introduced; we developed our first campus-wide portal, PAWS, and it has been immensely successful; we completed a full-scale upgrade of our campus computer network (some 10,000 connections), assisted by \$12 million in external funding; and we implemented two new “enterprise” systems, SiRIUS and UniFi, to transform a comprehensive array of student- and finance-related processes from registration to fee payment to exam schedules to grades. We also addressed the governance and policy framework, introducing three new institutional policies (for e-mail, data use and network security) and updated our longstanding computer use policy to reflect contemporary technologies, norms and expectations. More extensive comment on activity

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<sup>2</sup> Phil Goldstein, Richard N. Katz and Mark Olson, “Understanding the Value of IT”, *EDUCAUSE Quarterly*, No. 3, 2003.

<sup>3</sup> *Advantage U of S: Foundational Document for Information and Communications Technology at the University of Saskatchewan*, June 2003

over the last planning cycle, both initiatives that have progressed well and initiatives where less progress has been made, is provided in Section 3.

In preparing for the next planning cycle we set out seven broad priorities to guide our planning. These follow from lessons we learned over the previous planning cycle and provide the framework for the initiatives presented for the next. The priorities we have defined for the next planning cycle are:

1. Consolidate and integrate
2. Increase support to users
3. Address information needs
4. Manage risks
5. Clarify ICT governance
6. Ensure stable and predictable funding for ICT initiatives
7. Innovate and lead

### **Consolidate and Integrate**

With the extensive development work of the past five years behind us, and informed by lessons learned as we did that work, we now need to devote more of our collective attention to the consolidation and integration of our services, focusing on increased interoperability and increased standardization in both our systems and our data. The functionality we need requires that our various systems work together seamlessly, and our reporting requirements will not be served by “siloeed” approaches to our data. We have some successes on which we can build (identity management, PAWS, wireless and e-payments are good examples) but we need to do more than we are.

### **Increase Support to Users**

In our collective enthusiasm for new technology we must not lose sight of the people (the students, instructors, researchers and staff) whom the technology serves. As we bring in ever more technology to support instruction in both the physical and electronic environments, as we become increasingly reliant on technology to do research in the full range of disciplines and as we introduce new technology-assisted business processes we must ensure that users in both administrative units and colleges get the help they need to enable them to reap the full benefit of the technology we have provided.

It is no secret that some of our user community has found the rapid pace of change over the past five years to be somewhat bewildering. To address the danger of a “digital divide” we need to devote more attention to training and end-user support to ensure that everyone benefits fully from the investments we have made and the great work that has been done.

### **Focus on Information**

Information is one of a university’s most valuable assets and a critical requirement for a high performance culture. The effective use of information, both strategically and operationally, is vital to the future success of the University and can be a competitive differentiator.

Over the past decade, significant investments have been made in new systems and new processes for capturing and storing institutional *data*, including About-US (for HR-related data), SiRIUS (for student-related data) and UniFi (for financial data). We do a great job with our data, ensuring its accuracy and protecting it from harm or misuse, but obtaining the *information* needed to support some critical business requirements has occasionally proven to be difficult. We have some tools in place to obtain operational reports from our new systems, but applying context to the available data to create meaningful and useful information has been challenging. Inadequate processes, unclear roles, inconsistent definitions, and stand-alone architectures all contribute to this difficulty.

Without reliable and timely information, the University's ability to make well-informed decisions or report to external agencies and stakeholders is compromised. We need a strategy to address our data/information management vision, goals, priorities, design principles, and operating policies in support of our strategic directions and overall business goals in a holistic way. Work is underway that will culminate in recommendations in the areas of people, processes, organizational responsibilities and technology.

### **Manage Risks**

ICT is characterized by extremes: exceptional opportunities to improve processes, but also very large investments and potentially crippling risks. We need to ensure, of course, that we invest our ICT dollars wisely so that we deliver value in the choices we make, and we need to ensure that our risks are understood and properly mitigated. We must protect our systems, our users and our data from those that would do harm accidentally or intentionally, and we need to ensure that we have plans in place so that we can carry on with our business in the event that some crucial technology on which it depends should suddenly become unavailable. Planning is underway in the areas of network and system security, user awareness training, business continuity planning and disaster recovery.

### **Clarify ICT Governance**

Because ICT has become so vital to our enterprise, its governance must be accorded high institutional priority. Since ICT issues cut across every sector of the campus, there must be institution-wide oversight, coordination and facilitation so that organizational boundaries do not impede progress. Major strategic investments such as the development of a new student information system or a campus-wide portal must be discussed widely since the impact is broad. Decisions to go forward are *business* decisions that impact everyone, so they must not be made solely by those responsible for deploying the technology or those who will be its primary users. An appropriate governance structure ensures that we develop our plans and set our priorities collectively, that our actions are consistent with our values, strategies and objectives, and that our investments return the value we expect. Planning of ICT initiatives needs to be driven by business needs and strategic directions, not solely by the cost or by the capabilities of the technology.

Governance is about who makes what decisions, who advises those who make those decisions, and how and where that advice is provided. It's about roles, responsibilities and authority. Leaders need to lead and stakeholders need the opportunity to contribute meaningfully to decision-making at a point appropriate to their institutional roles.

As was noted in the 2004 plan our *federated* approach to ICT governance seeks to balance two opposing models. Centralization brings the advantages of scale economies, enterprise-level planning and institution-wide control of standards (best practices), but a highly centralized approach can be perceived as unresponsive to individual unit needs. Decentralization offers local control of priorities and expenditures and the ability to respond nimbly to opportunities but can create costly redundancies, fragmented competencies, and uneven or inconsistent service delivery. A true University-wide ICT strategy would be difficult to achieve in a fully decentralized model, where the focus on individual needs can be at the expense of institutional needs. With a federated model, we can both accommodate the autonomous nature of individual units and achieve the scale economies of the centralized model. Strong and effective central leadership, with significant local input and respect for boundaries, is a hallmark of a successful federated model.

Our community has embraced a federated approach to ICT in its practices and in its structures, but we must continue to sharpen our understanding of responsibility and authority. We have worked hard over the past five years to develop a governance model that preserves the institutional values we hold to be important, provides opportunities for stakeholders to be meaningfully engaged in the planning and development of initiatives, provides for both technical and non-technical input (since both are critical to success), and ensures that those developing and supporting our technology are fully accountable to the community that technology serves. This ensures that our ICT initiatives are developed in accordance with our collective sense of institutional priorities and institutional values.

### **Ensure Stable and Predictable Funding for ICT Initiatives**

Bob Rae speaks of the “tyranny of situational funding,” a problem that has frustrated ICT planning on this campus and limited its execution for decades. This was noted in several external reviews through the early 1990s and the University’s response was to create a new fund, the System Development Fund with an annual allocation of \$1 million, to provide the means to respond to new ICT demands on an ongoing basis. Not only has that fund failed to keep pace with either demand or inflation in the intervening decade, much of it has been permanently redirected. With insufficient and unpredictable funding we become too reliant on staff with only term appointments, we cut corners to save money (for which we inevitably pay later) and we focus too heavily on projects for which someone is willing to pay rather than strategic priorities.

Technology is expensive. Rather than reacting to requests for funding on a project-by-project basis, though, we should decide what we are prepared to spend on ICT and then provide ongoing funds so that those that are responsible can do the work they have been hired to do. Institutional priorities should drive decisions, not just the ability to secure funding.

### **Innovate and Lead**

Despite the relentless pressure of day-to-day responsibilities it is vitally important that we make time available for ICT staff to monitor new developments, assess their possible application on our campus and, where and when it makes sense, advocate for their introduction. The campus community must and does look to us for leadership, and it expects the advice we provide to be informed by solid research. This is vital to effective technology stewardship.