

**Report
of the
External Review Committee
on
Information Technology at the University of British Columbia**

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Information Technology at the University of British Columbia

Report of the External Review Committee

Preamble

This report of the external review committee on Information Technology (IT) at the University of British Columbia is based upon review of an extensive set of documents and data provided by the University of British Columbia together with interviews conducted with a wide range of individuals and groups on the UBC Vancouver and Okanagan campuses between 23 - 25 June 2014. The external review committee was charged by Dr. David Farrar, Provost and Vice-President Academic of the University of British Columbia, and Dr. Deborah Buszard, Deputy Vice-Chancellor and Principal, UBC Okanagan, to focus on the following terms of reference:

- To evaluate whether current IT systems and delivery are meeting the needs of students, instructors, researchers, and administrators.
- To review the current state of IT infrastructure and determine whether it is well designed and sufficiently resourced to support the needs and aspirations of the University.
- To review the IT governance and administrative structures with respect to IT provision across the system and to advise whether they are optimal in addressing the requirements of stakeholders and upholding the mandate of the University.
- To review the current state of partnerships between UBC IT and Faculties and to assess the scope and effectiveness of interactions between UBC IT and Faculty IT units where formal partnerships do not exist.
- To consider possibilities for future funding and IT support.
- To provide any other advice deemed relevant by the reviewers.

Overall, the review team feels that the central IT organization, UBC Department of Information Technology (UBC IT), and its role in the integrated-distributed model for IT, are generally trending in the right direction. UBC IT has clearly undergone significant change since the last IT review in 2008, having addressed 26 of the 32 recommendations from the previous review report. The review team recognizes that the progress made in such a short period of time has been a tremendous accomplishment. Day-to-day support is generally perceived to be good, with some process issues that should be relatively straightforward to address. The UBC IT team are seen as technically capable, and are perceived as individuals who want to do the right thing and create a service-oriented culture. The review team sees positive leadership from Oliver Grüter-Andrew, and feels that the positive trending of IT is directly attributable to his leadership.

However, a number of factors affect the potential benefits of the integrated-distributed model for UBC. The general confusion about leadership, governance, priorities, and strategic direction, not just for IT, but for UBC in general, has resulted in tension and a lack of trust between groups. Additionally, there have been major issues with enterprise projects, most notably the implementation of Blackboard Connect, the new enterprise learning management system (LMS). Such issues have further increased the tension and lack of trust between groups on the Vancouver campus, as well as between the Vancouver and Okanagan campuses.

The overall IT ecosystem of the Vancouver campus, as is the case with the majority of research universities, has developed organically over the years. As a result, it has been largely

unplanned throughout its growth, and is highly distributed in nature. Its highly distributed nature results in a misallocation of resources with significant overlaps in some areas and gaps in others. If applied in a way that both distributed and central resources are leveraged to their best advantage, the integrated-distributed model can help to address the allocation of resources in a way that addresses campus community needs while making more effective use of available resources.

The IT ecosystem of the UBC Okanagan (UBCO) campus developed quite differently from the Vancouver campus because of its different history and size. The UBCO campus community experiences a high level of IT support, which is highly centralized. With the progression of the integrated-distributed model of IT support across UBC, IT at UBCO has in some ways experienced issues similar to those experienced by distributed units on the Vancouver campus.

The review team recommends a number of action items in six major areas in order to address the Terms of Reference:

- Leadership / Strategic Direction
- Governance / Decision-Making
- Change Management / Training
- Communication / Transparency
- Systems / Support
- Research Computing / Cyberinfrastructure Support

An effective information technology ecosystem is critical to the success of 21st century research universities in the areas of teaching and learning, research and scholarship, and campus administrative services and operations. The review team feels that the overall IT ecosystem on both UBC campuses is moving in the right direction, but in order to continue in a positive direction a number of largely non-technological issues need to be addressed.

Area One: Leadership / Strategic Direction

Throughout the on-campus interviews and in various correspondence received, the reviewers noted overall confusion regarding the direction of IT, as well as its relationship to UBC strategy and direction. In many ways, the perception of IT at UBC has been strongly impacted by the overall scope, complexity and rate of change in a number of areas, not just IT, being experienced by members of the campus community.

A number of individuals on the Vancouver campus expressed the opinion that there is a corporatization agenda on campus with the underlying philosophy that one size fits all in IT. The notion of a corporatization agenda was fueled in part by confusion on the reporting structure of the CIO, with many believing that there is a direct line report to the VP Finance, with little input from the academic side of the house.

On both UBC campuses, many respondents recommended that in the drive towards standardization, flexibility not be lost, particularly after standardization has occurred. However, the views of some regarding faculty and research IT seemed at times to advocate a level of distributed support that could lead to a high degree of duplication of effort and poor allocation of resources. In some cases, there appeared to be a perception that the integrated-distributed

model implied an "all or nothing" approach to centralization, whereas the UBC leadership has conveyed that the model is intended to represent a balance. Whichever is the case, it is clear that the business needs of the University, be that teaching, research, or administration, should be identified - and that those needs should drive IT strategy.

The review team believes that confusion regarding leadership and strategic direction is a significant barrier to successful forward momentum towards developing an IT ecosystem that will best benefit the UBC mission. In order to help address the general confusion expressed during on-campus interviews, the review team recommends the following actions:

1. Clarify how University strategy drives and connects to IT strategy;
2. Identify critical priorities and stage changes in a way that is mindful of the scope, pace, and complexity of change occurring across the institution, not just in IT;
3. Be aware of the need to remain nimble and adaptable, even after decisions are made;
4. Clarify and communicate the CIO's reporting line(s);
5. Find the appropriate balance between customization and standardization with the understanding that processes may need to change to fit standardization;
6. Standardize in areas that do not provide differentiation for the University, such as a common email / calendaring system, and desktop support.

Area Two: Governance / Decision-Making

In interviews at both campuses, the review team was particularly struck by the confusion regarding IT governance in the context of why, how, and by whom decisions are made. In an attempt to create a system of governance that encourages participation at various levels, there appears to be no clear delineation between groups that have authority to make decisions versus those that are advisory in nature, for information sharing or consultation. Additionally, governance groups appear to be conflated with project groups, further contributing to the confusion over governance. Given that the Information Technology @UBC Self-Study, 2014 June, lists ten different governance groups, it is perhaps not surprising that the IT governance structure is difficult to understand.

In general, academics felt that they didn't have sufficient voice in decisions. Similarly, some individuals at UBCO expressed concern that they would not have sufficient voice in decisions regarding UBC shared services. Further, many thought that decisions had already been made before information was brought to committees.

To reduce confusion over IT governance, the review team recommends that UBC:

7. Clarify and simplify the IT governance structure;
8. Clarify where decision-making authority lies and where advice is sought;
9. Separate projects from the governance structure.

Area Three: Change Management / Training

A recurring theme throughout the on-campus interviews was a sense of stress over the scope, pace and complexity of changes occurring on both campuses, though it was more evident at the

Vancouver campus. A number of individuals felt there was a strong pressure to centralize, and there seemed to be a lack of understanding regarding the extent to which centralization was expected. Often local culture did not appear to be recognized or respected in changes that were being considered or implemented, which leads to distrust and lack of engagement in processes.

Although it was most noticeable with the implementation of Connect, there appears to be inadequate training and support for new systems in general. Many faculty indicated that they had not had sufficient training and support after the migration to Connect. Similarly, it appeared that students did not have sufficient resources to support the migration, though most seemed to be self-sufficient with Connect. Some students had even discovered functionality in Connect that was not being used, and advocated for more extensive training for faculty in these additional functions. The review team believes that many of the needs (that some individuals feel are unique) could be addressed with standard services if better communication and training were provided to end-users.

In order to help reduce the stress and tension related to the scope, pace, and complexity of change, the review team recommends that UBC:

10. Use the "carrot" rather than "stick" approach and take local culture into account when introducing change, particularly as it applies to centralization;
11. Provide sufficient training and support when new systems are introduced, and during ongoing operation, for both staff and students as warranted;
12. Clarify and systematize the relationship between the Centre for Teaching and Learning Technology and UBC IT with respect to implementation, support, and training for the learning environment and learning technologies.

Area Four: Communication / Transparency

As observed previously in the context of IT governance, the review team noted that there is a general lack of understanding on both campuses of how and when decisions are made. Communication from the bottom up, top down, and horizontally has not been uniformly effective in multiple ways.

Communication is a two-way street, and is a shared responsibility. Although communications from the campus leadership and IT could use clarity and improvement, individuals in the campus community need to recognize their own responsibility for becoming and staying informed. For example, at least one faculty member described the implementation of Connect as a surprise, despite over 60 workshops on both the Vancouver and Okanagan campuses to elicit feedback and input on the choice of a new LMS.

Another recurring sentiment that the review team noted was that individuals and groups felt that consultations with them for feedback and input had not been genuine. Many expressed the opinion that they had been invited to consultation meetings, but that decisions had already been made prior to the meetings. The sentiment that consultations are not genuine has led to cynicism and mistrust of UBC IT by some individuals.

Lack of transparency was also cited by many as a concern, and has led to a lack of trust in UBC IT, and to some extent, the campus leadership. As noted earlier, the decision-making process appears particularly opaque to many in the campus community. The overall impression of

corporatization felt by many has not been addressed, leading to at least some level of alienation by some individuals. Additionally, transparency of IT costs was raised by some, in the context of cost of services provided by UBC IT to units, as well as mistrust in the IT budgetary figures stated in the self-study.

The review team feels that lack of effective communication is a significant barrier to success for UBC. The team recommends the following approaches:

13. Improve the quality and frequency of communications to the campus community regarding how and when decisions are made;
14. Use different modes of communication to convey decisions and to encourage participation in decision-making processes where required;
15. Share the results of this external review with the University community along with the actions to be taken;
16. Set and communicate expectations for individual responsibility for becoming and remaining informed of decisions;
17. Evaluate and adjust the nature of consultations with the campus community regarding IT services, as consultations need to be genuine;
18. Review the chargeback model to determine if some "baseline" IT services could be more effectively and efficiently funded through centralizing those costs.

Area Five: Services / Support

There are a number of IT services that various members of the Vancouver and Okanagan campuses feel would enhance the campus experience. Some of the suggested services, or enhancements to existing services, might be considered "nice to have," while others should be evaluated in the context of the need to support the University's mission, and prioritized accordingly.

The review team has chosen to list suggestions for new IT services and improvements to existing services in no particular order, as prioritization of resources to implement and improve services would need to be aligned with UBC's mission and strategic direction.

Suggestions from the UBC community:

19. Improve videoconferencing between the Vancouver and Okanagan campuses, possibly of telepresence quality, to increase the viability of remote conferencing to reduce travel between campuses;
20. Consider providing graduate-level classes via video between campuses;
21. Increase wifi coverage in classrooms and lecture halls on the Vancouver campus; provide better coverage in buildings on the Okanagan campus that are currently underserved, including the residence halls; and consider improving outdoor coverage on the Okanagan campus;
22. Improve the processes involved in the use of the ticketing system; some interviewed were of the opinion that tickets are being closed prematurely and that the ticketing system is not user-friendly;
23. Provide end-user support for Apple products on the Vancouver campus;

24. Consider shifting from "zone" support in academic units to a model that provides end-users the ability to become familiar with the IT professionals who serve them;
25. Clarify the scope and intended use cases for the Workspace data storage service, as it appears to have both fans and detractors depending on their understanding and usage of the service; implementation of other data storage services may need to be considered;
26. Consider increasing the quota on the central email service, or providing a means to address the storage use cases currently served by the email service that might be more appropriately served by another service;
27. Consider improving the Vancouver campus map service, as the current map is difficult to use, particularly on mobile devices;
28. Review current practices for the assignment of UBC e-mail addresses. Some students were confused to receive an alumni e-mail address before graduation.

Area Six: Research computing / Cyberinfrastructure

Support for research computing and development of cyberinfrastructure is of increasing interest on both the Vancouver and Okanagan campuses. On the Vancouver campus, there are concerns regarding "flattening out" of the research enterprise and the growing need to support big data. The Okanagan campus, guided by its Strategic Research Plan 2009-2014, seeks to pursue eight identified research areas that represent existing strengths and emerging opportunities.

The feedback from researchers and research IT support professionals was varied and impassioned. The concierge-style services provided to Okanagan researchers were touted as useful and effective. Researchers praised the assistance with navigating processes such as procurement and licensing, and wayfinding to resources they needed for their research.

Researchers and research IT support professionals interviewed on the Vancouver campus nearly universally rejected the idea that research computing services could be centralized, and some considered central IT to be an impediment as well as more costly. Most felt that researchers were self-sufficient with regards to research computing, and were already well-served by their local IT professionals.

In reality, there will need to be a balance between localized and centralized services in support of research, and there is a balance in efficiencies created for the institution versus the individual. Researchers are already dependent on the centrally provided data network, as well as other services provided at a campus level. Given the increasing need to tackle large-scale challenges, such as the management, storage, and transport of big data, the need to collaborate between researchers across multiple institutions, and the increasing need for computational analysis in multiple disciplines, there is a need to leverage the advantages of scale provided by centralized services. On the other hand, the diversity of research necessitates some level of localized resources.

As there should be an approach to maximize the amount of scholarship produced for its investment, UBC needs to find the appropriate balance of consolidating research support resources while maintaining support for diversity of research and scholarship activities. UBC IT should work with researchers and university leadership to:

29. Maintain state-of-the-art data/communication networks, including appropriately trained IT professional personnel;
30. Provide institutional stewardship of research data;
31. Develop technologies to enable collaboration across institutions, such as identity federation;
32. Consolidate supporting technologies where possible, such as high-performance computing resources, research data storage, data visualization facilities;
33. Ensure the needs of diverse disciplines are supported.

Conclusion

As noted in this review report, the campus communities of both UBC campuses, the CIO, and University leadership face challenges moving forward in leadership, governance, change management, communication, support, and research computing. Establishing the connection between University strategic direction and IT direction, clarifying governance structures, and improving communications will be critical in order to continue to move in a positive direction for the IT ecosystem. In particular, responding to the overall scope, pace, and complexity of change will challenge the entire campus community, and will continue to feed tension and mistrust between groups if not addressed.

Information technology at UBC has been trending positively since the last review in 2008. Through sponsoring a follow-up review in 2014, UBC and its leadership have demonstrated a commitment to continue to improve the IT ecosystem and thereby help meet the goals of “Place and Promise.”

The external review team wishes to thank all of the individuals in Vancouver and Kelowna who carved time out of their busy schedules to provide their input into the review process. We appreciated your openness, candor, and willingness to spend time with us. In particular, we wish to thank David Farrar, Provost and Vice-President Academic, and Oliver Grüter-Andrew, Chief Information Officer, for providing us the opportunity to learn more about UBC, and to Don Thompson, Deputy CIO, UBCO for the preparation of materials we received. We particularly wish to thank Herbert Rosengarten for his hospitality and patience with the review team during our stay.

Complete List of Review Recommendations

Leadership / Strategic Direction:

1. Clarify how University strategy drives and connects to IT strategy;
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