

Massey University: Developing an online infrastructure

When planning for e-learning, institutions should be aware that they may need to invest significantly to ensure that core information and business infrastructure is able to support a student studying online. This case study explores Massey University's ten-year project to put all of their key student business processes online.

IN THE MID-1990s, Massey University recognised that e-learning would play a vital role in the future of its large extramural programme. Following an initial phase of encouraging and studying the efforts of a group of early adopters, the University made an early commitment to a campus licence to use WebCT, one of the early international leaders among Learning Management Systems (LMS).

At first, e-learning was simply another teaching medium, sitting alongside the existing streams of print-based extramural study, conventional campus-based study and intensive block-mode study. However, it quickly became one of the key drivers for a huge and continuing re-engineering of Massey's system for transacting business with its students.

By the mid-1990s, Massey's Student Management System (SMS) was overdue for re-development. The old paper-based system required students to complete a form for every transaction with the University, which then had to be entered manually by a keyboard operator. Each phase of a complex transaction had to be loaded daily on a batch basis, meaning that it was difficult to get up-to-date status reports or to identify the progress of any individual transaction. Processes such as student admission and course registration were also bound by a host of individual academic and administrative judgements about eligibility and ranking. This meant that many applications were held up along the way, awaiting attention. Admission and enrolment typically took two weeks to complete with many applications taking much longer.

At a time when most large educational institutions were looking to upgrade their SMS, Massey had additional motivation to do so. Transactional costs for SMS tend to be a function of the number of individual students rather than the average student study load. With its 20,000+ mostly part-time extramural students, as well as another 10,000 'internal' students, Massey had the largest number of individual students of any university in New Zealand at the time and was paying a disproportionate cost to enrol and manage them.

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Case Study



Transacting business with extramural students also brought its own challenges. All business had to be done at a distance – at that time generally by mail – and any adjustments to the original student choice required further contact with the student. Given the systems available at the time, this could be a frustrating, drawn-out process for both students and administrators.

In the late 1990s, the University commenced a project to redevelop its SMS with the objective of allowing students to complete their annual course registration online and in real time. This was a huge undertaking and extended well beyond the arcane challenges of software and systems. Several large sub-projects were needed to support this effort. For instance, it was quickly apparent that the programme regulations themselves were a major obstacle to online registration. A University-wide project was undertaken to simplify these regulations wherever possible and remove the need for academic judgements at various points along the way. A similarly challenging project was to standardise the units of academic currency across the University to allow the SMS to treat them as genuinely additive. A third sub-project involved the production of a comprehensive online series of programme and course information resources.

Another project allowed students to pay their fees online. The development of a University-wide 0800 call centre was a further initiative that was crucial to the success of the primary project. If students were to be assisted to make timely and appropriate online choices, they needed rapid and authoritative advice on key concerns. They could not be expected to identify and then locate the appropriate source of information within the University for any of their concerns, particularly when they were on a toll call.

The redevelopment of the SMS and the wider student business environment of the University has been an ongoing project. By 2001–02 the initial objectives had been achieved. Students were able to complete the great majority of course registrations online and in real time, and the contributing sub-projects had all achieved their targets.

For the majority of staff and students, these developments went almost unnoticed. Re-enrolling students might have noticed some changes in process; others would have taken these changes for granted. Those responsible for these key elements of infrastructure, and the programme leaders and managers dependent on these processes, would have certainly noticed a dramatic reduction in the number and range of problems and delays previously experienced during the enrolment process.

These developments came at a huge cost. Identifiable project costs alone amounted to several million dollars each year during the life of the project. Expensive as this project was, it was a necessary investment in ensuring that students were able to register for and carry out their study with minimum administrative delays or difficulty.

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What is the relationship between these reforms and the University's e-learning programme? It is certainly true that the University would have been forced eventually to reform its SMS processes, even without the additional challenge of its large numbers of distance education students. However, the growing use of e-learning highlighted the disjunction between the students' mode of online study and the painfully slow and error-prone offline SMS processes.

The SMS reform project was given added impetus in 2001 with the adoption of the 'single channel' vision statement. This statement sought to commit the University to "manage all its business and academic management transactions with students on an online basis". It recognised the coming primacy of the web as a source of information and service and sought a commitment to make as many administrative and support services as possible available to students online.

Good progress has been made in achieving this vision. Students can now transact most of their academic business with the University online, from course registration through to applying to graduate. The development of online library resources has revolutionised access for campus-based and home-based students alike and there is a well-subscribed online student learning service to cite just a few examples.

The articulation of some of the functions of the proprietary LMS with the University's corresponding services remains under development. Particular instances are the development of an online assignment submission and tracking system to support e-learners. The challenge is to ensure a seamless, robust and auditable system that is integrated with the University's student record system rather than standing separate from it.

Early hopes of a big uptake of online testing and examining have also been slow to eventuate. While the proprietary LMS is quite capable of managing some sort of scheduled online test or exam, the systems are not well integrated into the University's record of assessment and problems of identity verifiability remain as well.

Reflections

A significant institutional commitment to e-learning to support distance-learning students tends to imply a parallel commitment to allowing students to carry out their various academic and business transactions using the same medium.

Shifting an institution's student management processes from a paper-based system to a real-time, online environment is a huge and enduring commitment, requiring change at many levels of the institution.

It is possible to allow teaching staff to record all student assessment information, using the self-contained systems of a proprietary LMS. The danger of this approach, however, is that these records are likely to become invisible to the institution and to line managers. They are also subject to error and variable application at the hands of teaching staff. It is a challenge to integrate these systems with existing institutional records of student progress and to monitor LMS records.