**Joanne Deitsch
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Technology Selection**

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The University of South Africa (Unisa) has a history of distance education excellence and service to developing a 21st century workforce. Unisa desires to serve every country on the African continent as encompassed in the vision statement “Towards the African university in the service of humanity” (Unisa, 2012c). This vision remains unfilled as student enrollments at Unisa from 2009-2011 show that 90% or more each year were from South Africa while enrollments from other African countries account for less than 2% of total enrollment (Unisa, 2013a). In 2012, Unisa served a total student population of 287,109 (Unisa, 2013a). Unisa’s mission “contribute[s] to the knowledge and information society, advance[s] development, nurture[s] a critical citizenry and ensure[s] global sustainability” (Unisa, 2012c).

Unisa offers undergraduate, graduate level and short course programs in many disciplines that are delivered at a distance. A variety of academic and vocational Unisa programs offered are delivered through six undergraduate colleges that cover the subjects of agriculture, economics, education, human sciences, law, and science (Unisa, 2013b). The Graduate College at Unisa provides masters and doctoral programs in the same disciplines offered at the undergraduate level (Unisa, 2013d). Masters, doctoral, and short learning business leadership programs are available from the Graduate School of Business Leadership (Unisa, 2013c). All studies are delivered at a distance and Unisa prides itself as the “longest standing dedicated distance education university in the world” (Unisa, 2012a).

A Learning Management System (LMS) supports the future of Unisa’s students and maintains Unisa’s reputation. The analysis includes the rationale for an upgrade of Unisa’s current Sakai-based LMS called MyUnisa, stakeholder identification, strategy for introducing the upgrade and implementation time frames, barriers to adoption and recommendations for overcoming these obstacles. Exploring how to improve the MyUnisa LMS, describes how this tool can support the skills of 21st century workers, and this is important because this ensures Unisa as the leading open, distance learning provider in South Africa.

**Analysis**

Unisa’s strategy moves this institution from the current text technology to online technology (Unisa, 2013a). The primary method of tuition at Unisa includes the use of printed study packs (Unisa, 2013e). Regional centers are located throughout South Africa that provides students with computer access, administrative and academic support (Unisa, 2012d). In 2013, students entering Unisa for the first time or starting a new qualification will have to do a compulsory online module using the university’s learning management system (LMS) MyUnisa (Unisa, 2013e). Unisa sees technology as a way to preserve leading status as an open, distance learning provider on the African continent and competing successfully in the international market (Unisa, 2010).

A learning management system starts Unisa’s journey to providing an online presence. As Caplan & Graham (2008) quote Downes, a “LMS is a software application suite which organizes and standardizes learning content, dividing the course into modules and lessons, supported with quizzes, tests and discussions” (p. 248). While Unisa faculty intellectually endorses the use of an LMS as the utmost importance, the actual faculty uses MyUnisa infrequently and ineffectively (Cant & Bothma, 2011). The 2012 Annual Report (Unisa, 2013a) discusses the “tardy pace of cultural transformation” in technology adoption.

A logical task to assign to the student author could include an upgrade of MyUnisa. The plan would upgrade from Sakai 2.8 currently used to a hybrid of Sakai 2 and Sakai Open Academy (http://www.sakaiproject.org/). This hybrid approach represents a lower risk installation as it leaves the familiar Sakai 2 interface available for faculty and student use while incorporating social networking tools of Sakai Open Academy (Speelmon & Vuerings, 2010). Sakai Open Academy does not yet support core LMS functionality hence the hybrid approach recommendation (Ignjatovic & Jovanovic, 2013; Speelmon & Vuerings, 2010). Most importantly, the two new additions envisioned in this upgrade are wikis and social networking tools.

A good starting point of moving from the current tutorial mindset to creating a more collaborative culture consists of the successful adoption of the proposed tools. Digital media literacy consists of a mindset more than the tools themselves (New Media Consortium, 2012). Today, MyUnisa usage acts as a digital extension of the traditional system with electronic files replacing paper tutorial letters and providing grades electronically rather than on paper (Cant & Bothma, 2011). Wikis and social networking tools are the introductory Web 2.0 collaborative tools. Wikis are an ideal scaffold moving faculty from simply posting course information or lecture notes to other uses such as serving as a knowledge base, as a tool for group projects and brainstorming activities and ePortfolio creation (Bates & Sangra, 2011; McGreal & Elliott, 2008). Social networking tools can provide a semi-private channel to allow people to meet, interact and share ideas, artifacts and interests with each other (Anderson, 2009). Future releases could include other Web 2.0 tools.

The stakeholders in the proposed upgrade include the Chancellor, the Unisa Council, the Executive Director of Information and Communications Technology, the Director of the Division of Continuous Professional Development and the Executive Dean of each college. The Chancellor heads Unisa and provides critical support for all other stakeholders. The Chancellor clearly communicates the importance and rationale for this change to entire organization. The Unisa Council provides the governance related to this information technology change (Unisa, 2012b). This governance ensures that innovation moves institutions forward while minimizing interruption of day to day operations (Davis, Little, & Stewart, 2008). The Principal & Vice-Chancellor heads the Unisa Council and the Chancellor should ensure agreement with the proposal. The Executive Director of Information and Communications Technology (ICT) provides input on the proposed upgrades from a technical perspective. The ICT deploys the upgrade. The Division of Continuous Professional Development (CPD) provides training on online teaching skills for all permanent staff (Unisa, 2013a). The Executive Deans would act as change agents for the proposed changes. The Executive Deans should recruit support from departmental faculty and staff for successful change management.

The upgrade should take a phased approach and has a target of nine to fifteen months to complete. The first phase includes deployment of the hybrid Sakai environment to a test environment for a pilot period of three to six months. Pilots are a best practice for introducing new developments to the organization (Davis et al., 2008). The proposed pilot has four objectives. The first objective allows ICT to document issues encountered with the upgrade and the solutions for resolution. ICT conducts load testing that comprises the second objective and increases the probability of a successful production deployment. The third objective consists of the CPD exploring the new environment to assemble and deliver formal, mandatory training to faculty. Finally, Executive Deans or designees and any other academic early adopters are encouraged to explore the test environment. Upon successful completion of the pilot, the second phase would begin. Otherwise, Unisa must pursue the development of an alternate proposal.

The second phase consists of the actual production deployment and informal training. The actual production deployment should take 72 hours. The CPD conducts short informal training sessions during departmental meetings to provide guidance on usage over the course of six to nine months. These targets assume that all recommendations discussed in this section are successfully implemented.

Faculty fear of the LMS and lack of understanding of the value proposition creates the first barrier to MyUnisa usage. This barrier would also exist for the proposed changes. A best practice for educational institutions includes faculty and management training on new technology (Bates & Sangra, 2011). MyUnisa formal training sessions are available but are not moving faculty to using this tool as more than a static web page (Cant & Bothma, 2011). Coaching and mentoring are essential for moving faculty from awareness to actual meaningful usage of the current and proposed MyUnisa capabilities (Cant & Bothma, 2011).

Experimentation and training are essential components for project success. The CPD should start the movement through creating a wiki to explain the features of MyUnisa and new tool usage. The CPD performs open and transparent experimentation with the proposed tools and the lessons learned. CPD would introduce the new tools, provide training and guidance on usage. Wikis can maintain reports with multiple authors and may appeal to faculty researchers contributing to joint research (Bates & Sangra, 2011). Posting course information or lecture notes and inviting participation from students are another use for Wikis (McGreal & Elliott, 2008). Over time the Executive Deans and the CPD could recruit interested faculty to share experiences and projects as faculty move from learning about MyUnisa to sharing personal experiences.

Another part of adoption addresses the question of self-interest. Rewarding faculty and staff could include informal recognition and actual compensation in the form of raises and bonuses. This powerful motivational tool helps with adapting to new technology (Bates & Sangra, 2011). Leadership plans the linkage between compensation and use of the new tools and clearly communicates the same to faculty.

A second barrier to wiki and social tool adoption lies in the insufficient internet infrastructure of South Africa. According to the South African Government’s 2011 Census data, 21% of households have a computer and 35% of households have internet access either at home or work (http://www.statssa.gov.za/Census2011/Products/Census\_2011\_Census\_in\_brief.pdf). Unisa’s regional centers must provide the needed internet accessibility in order to ensure student success using the proposed upgrades to MyUnisa.

An initiative for students and planned connectivity upgrades to Regional Centers help address the connectivity barrier. Unisa’s e-solutions initiative for enrolled students launched to improve connectivity to online learning materials in 2013 (Unisa, 2013f). Laptop or tablets are available for purchase at discounted prices (Unisa, 2013f). In addition, the e-solutions also provides affordable internet access service (Unisa, 2013f). Unisa’s strategic plan includes installation of wireless networks at regional centers (Unisa, 2010). This will improve the current limited access available at regional centers and support the proposed changes.

**Conclusion**

 To maintain Unisa’s status as the leading open and distance learning institution in South Africa, the strategic plan moves tuition from text based learning to online learning (Unisa, 2010). Barriers to this transition are slow faculty adoption and insufficient intranet structure (Cant & Bothma, 2011; http://www.statssa.gov.za/Census2011/Products/Census\_2011\_Census\_in\_brief.pdf). Faculty training and rewards, student e-solutions initiative and internet upgrades at regional centers can overcome these barriers (Cant & Bothma, 2011; Unisa, 2010). A pilot prior to production deployment allows the organization to prepare for the new features and ensures a successful production deployment. The implementation time frame estimates at nine to fifteen months. Stakeholders must include the highest level of leadership with all organizational members contributing to project success. Implementing a wiki and social networking tools as part of a MyUnisa upgrade could help start the transition to a Web 2.0 culture at Unisa (McGreal & Elliott, 2008). A more collaborative culture supports Unisa’s mission of contributing to a knowledge and information society.

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