New report calls for rebuilding technological infrastructure at universities

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Unis face a digital ‘perfect storm’. Credit: FreeDigitalPhotos

Universities need to rebuild their organisational and technological infrastructure, and even change their 'cultural DNA', to meet the challenges of the digital era, according to a new report commissioned by the multi-national digital networker CISCO.

Titled The Role and Relevance of Universities in the Digital Economy,

the report draws on a Presidents' Conversation between some of the most forward thinking universities in Australia, the US and the UK.

The report's launch coincides with the Universities Australia Higher Education Conference in Canberra this week, which is themed "Universities in the new era: stirred not shaken". It also comes in the wake of Flinders University's $14 million investment with CISCO in high density, high speed wireless network to support interactive student experiences, lectures by high definition video, video conferencing, stronger research capability, and enhanced social media relationships

Key issues addressed include cyber security, big data and an approaching 'perfect storm' for universities as the traditional boundaries around information and learning are eroded, and uptake of platforms like the Massive Open Online Course (MOOC) increases exponentially.

The report's foreword, co-authored by Flinders University Vice-Chancellor Professor Michael Barber and San Jose State University President Mohammad Qayoumi, calls on universities to join forces to help each other adapt.

"We recognise that university leaders who can understand the major trends that are occurring – and can effectively convey that understanding into their own communities – will help position our institutions for necessary transformation," they wrote. "By collaborating effective and openly we will adapt as institutions, supply better education offerings in new, more flexible ways and achieve better research outcomes."

The 'unbundling' of universities, the rising 'premium' for adaptive institutions and the rapid emergence of the 'connected' university as an emerging business model are discussed. It also describes how the assumptions, values, and practices of higher education are being tested by the rise of the digital economy, and how every dimension of work and

life within universities is being disrupted.

The report speaks of the need to rebuild "cultural DNA" so that staff can move from being subject matter experts only, to become curators and facilitators of knowledge. One of the key requirements for this to happen, it says, is to provide staff with appropriate 'systems and 'levers' to innovate. Others include building architecture of resilience, from organisational structure and governance arrangements, to workforce policies to support agility.

Commercial and technology architecture, including Cloud technologies to reduce costs, and robust, scalable, future-proofed technology, are highlighted as either desirable or inescapable foundations for this rebuilding.

One of the major concerns was cyber security, with statistics from 2013 showing that the average cyber-attack demanded 691 per cent more bandwidth, lasted seven hours longer (up from 28.5 to 35.4 hours) and increasingly focused on infrastructure (up 26.75 per cent), rather than applications (up 8 per cent).

The report said that unprepared universities risked becoming unwitting partners in the growing number of distributed denial of services (DDOS) attacks, where holes in a university's security are being exploited to attack other individuals and organisations.

To meet the cyber security challenge, it said universities should build an 'inside out' and 'cellular' defence to deliver three outcomes: protection against potential threats, detection of attacks, and rapid remediation in the face of attacks.

More information: www.dandolo.com.au/

Provided by Flinders University