

## FRONTIER QUALITY DIFFERENTIALS IN HYBRID HIGHER EDUCATION

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### Abstract

This paper contributes to international quality assurance by reviewing implications arising from emerging 'hybrid' business scenarios. This hybridised higher education has alluring economies but fundamental implications for quality. This paper devotes sustained attention to unpacking what, as a result of contemporary reconfigurations, would appear to be pressing current change/differentiation frontiers-engineering an engaged learning experience, and authenticating learning outcomes. These frontiers are analysed, with consideration of development options. The paper concludes by emphasising the consequent and urgent imperatives for workforce development.

Keywords: education change, learning outcomes, student experience, business models

### Introduction

Higher learning has always been a 'distributed' activity-scholars and students have long moved around the world within collegial networks, the free-flow of research and development helps develop economies and societies, and universities have engaged with local and regional communities. Universities have always served as institutional nodes underpinning this anarchical flow, providing structure and resources that support innovation and development. Major and diverse changes are resulting, therefore, from what looks like a de-institutionalisation of higher education-or perhaps a re-institutionalisation characterised by new institutional architectures, reconfiguration of core academic business, new epistemological and operating contexts, and shifting workforce prospects and technologies.

A big challenge to higher education is the advent of new ways of doing business. In the last decade online technologies, commercial players and innovative academic leaders have combined to carve out new decouplings and recouplings (on this, for instance, see: Online Learning Task Force, 2011). Examples-such as Swinburne Online University (in Australia), Capella University (owned by Capella Education Company) and Ameritas College of Brandman University (United States) and the University of Essex/Kaplan (United Kingdom)-illustrate different ways in which private firms have nestled in to facets of core education business like admissions, curriculum, teaching and assessment. Such 'disruption' leads to potential diversification, for it invites new positionings and approaches to existing practices. The implications are particularly notable for education and institutional leadership. Yet any such institutional diversification is correlated with pressure to make explicit and manifest many of the most important and often intangible features of higher education, introducing a *"dynamic tension between comparability and differentiation"* (James, 2013).

Over recent decades fundamental changes to higher education have enabled more people than ever before to access curriculum and teaching. Today, knowledge and insights from international thought leaders can be freely accessed. Yet as getting in becomes easier, getting out gets harder-or it should if standards are to be maintained. Institutions must establish feasible and effective strategies for engaging students in learning, and for ensuring they achieve acceptable learning outcomes. This challenge poses obvious implications for credentialing and basic conceptualisations of a course of study'.

In essence, the significant expansion of higher education over the last three decades has driven a need for institutions and their funding agencies to examine, in crude terms, 'how to do higher education cheaper and better'. The economies and qualities of elite systems do not scale. Along with growth, institutions operate day-to-day in ever more competitive and complex borderless environments. Commercial and private provision is growing, as detailed below. Such growth and diversification ramps-up the need for evidence that students are Learning and what they are achieving. Leaders and managers need such information to form strategy and guide practice. Policymakers and quality agencies seek information on quality and productivity to procure and justify increasing public spending. A substrate on which much of the collegial system is built - trust - takes new forms in (semi-)commercial settings.

This paper contributes to international quality assurance. It reviews forces driving reconfiguration of higher education, and the new 'hybrid' business scenarios arising in response. The paper then devotes sustained attention to unpacking what would appear to be pressing current change/differentiation frontiers - engineering an engaged learning experience, and authenticating learning outcomes. These frontiers are analysed, with consideration of development options. The paper concludes by emphasising the consequent and urgent imperatives for workforce development.

The analysis in this paper focuses on the education business of universities, and while the remarks are not particularly constrained the interest here lies primarily in undergraduate coursework education. In most systems the education of domestic students is a distinct and protected market segment, often subsidised by government, with its own economic dynamics. Of course, change in the core business of undergraduate education carries immediate implications for research, engagement and leadership.

As noted in the conclusion, the contexts and changes which have been considered seem threatening, almost perhaps in an existential way. But these changes do not portend the 'death of the university'. Instead, the contention is that this reconfiguration of higher education will strengthen rather than weaken established providers, though the mechanics of teaching and Learning will be substantially reconfigured. With careful navigation, higher education will continue to innovate, and build sustainability and reach. Of course, the analysis in this paper is necessarily general rather than particular, and while it may not apply to many systems or programs, it is relevant to many.

### **Contexts shaping higher education**

Significant forces are reshaping core facets of higher education, many of which cannot be ignored even at the most conservative universities. Key forces include those associated with cost and pricing, transparency and privatisation, diversification and stratification, curriculum and provision, and students and academics.

Even among service industries higher education stands out as being particularly afflicted by what Baumol (1967) described as the "*cost disease*". Universities have large infrastructure costs, large Labour costs and reliance on expensive face-to-face provision. This underpins high fixed and variable costs, and limited economies of scale. The model is not highly expandable without seeing diseconomies of scale, particularly in a highly person-centric services sector that manifests several growth-inhibiting factors. This puts increasing pressure on institutions to explore revised cost structures. The urgent need to boost university productivity has

been noted by many (e.g. Massy, 2013; Sullivan, Mackie, Massy & Sinha, 2012; Auguste, Cota, Jayaram & Laboissiere, 2010).

Revenue as well as expenditure is squeezed. Coupled with cost pressures, universities typically have only limited capacity to set price. In domestic markets regulation and subsidisation tend to nourish elite oligopolistic clubs which would enable universities to function as 'price makers' were it not for the typical imposition of tuition price ceilings. Internationally, universities tend to be 'price takers' like any others, competing on the open market for student enrolment. Compounding these pricing pressures is the emergence of new institutional players, explored below, which are offering higher education services at substantially lower cost.

Higher education is encountering transparency forces which have never been seen before. The proliferation of institution and program rankings highlights this thirst. But more broadly, governments are demanding that institutions detail activity, and prove performance and standards (European Commission, 2013; TEOSA, 2013). Potential students and their families are seeking information to guide investments in learning. Business is seeking reliable data to guide graduate recruitment and research partnerships. Many of these transparency developments are international, working off 'found data' and restricting the capacity of institutions or governments to establish or control reporting. Institutions can attempt to manage and assure the data that feeds into such processes (in Australia various institutions have hired 'rankings coordinators', and many hire consultants to assist with positioning), but much can already be sourced passively by third parties.

At the same time, universities are confronting new commercial constraints. Though various facets of university research have long had commercial flavours, the new pressures surround core education business. New streams of often private finance are flowing into higher education, seemingly in loose counterpoint to the diminution of government subsidy. This kind of money can create problems for universities, imposing new obligations - for instance, around intellectual property and disclosure - which mix uneasily with basic tenets of scholarly work (and the transparency demands exposed above). 'Commercial transparency' and 'scholarly openness' differ in theory and practice. This situation puts pressure on universities to rethink collegial conventions regarding knowledge creation and dissemination, many of which are tacit. Who owns knowledge and how freely can it be accessed and shared?

Among all this, institutions are facing enormous stratification pressures in new global ecosystems. National systems are not knowledge islands - academics, students and ideas travel widely among systems. In many advanced systems it seems increasingly fruitless to seek 'national sense' out of either research or education, for so much of higher education is international in essence. The national barriers that protected most universities are being eroded by a new international hierarchy. Institutions are situating, though mostly being situated, in emerging borderless orders partly driven by student markets and preferences. Kennie and Price (2012), for instance, detail one taxonomy of an emerging international ecosystem which structures the landscape by selectivity (open/elite) and funding (public/private). Van Vught (2012) writes of a hierarchy consisting of the top echelon, international research universities, a range of niche/specialised institutions, a plethora of local teaching institutions, and a set of virtual global players. Barber, Donnelly and Rizvi (2013) propose another taxonomy - the elite university, the mass university, the niche university, the local university, and the lifelong learning mechanism.

Against these stratification pressures sits a host of policy and strategic desires for a diverse higher education system. Systems desire policies that maximise the value and reach of scarcer public dollars. Institutions seek 'blue oceans' (Kim & Mauborgne, 2005) that deliver alpha performance in increasingly contested terrain. Both eschew isomorphism that leads to structural inertia. Finding and establishing difference gets harder just as it becomes more important.

And knowledge is being flatpacked. Universities are facing business pressures arising from the promulgation of online open-access proprietary curriculum products. Protecting access to knowledge resources once gave higher education a strategic edge. Until very recently, universities could distinguish themselves through the substance and quality of curriculum materials. Institutions with access to leading professors/experts, with ownership of distinctive technologies, and with expensive facilities, had relatively exclusive access to knowledge. In many areas of higher education this differentiation parameter has gone, with the internet and global flow of talent servicing what several major United States research institutions referred to nearly a decade ago as the open courseware initiative' (MIT, 2013). The new knowledge architectures lead to reconceptualisation and reform of how higher education is conducted. Providers can recode and recompile information, repackaging this in myriad ways to suit different individuals and groups.

A decade ago, aspirations shaping books on 'virtual universities' (e.g. Robins & Webster, 2002; van der Molen, 1999) might have swamped sales, but such literature is being reprinted now that software services expectations (Daniel, 2012). What once higher education ostracised as 'programmed learning' today may constitute 'authentic pedagogy'. The physical university has not died, but virtual learning has proliferated and been incorporated within existing institutions. Despite persistent shortcomings (Coates, James & Baldwin, 2005) learning management systems have automated many core teaching functions. Far from being a backwards slide, however, this refiguring of teaching creates space for innovation, positioning, and diversification. The same 'Accounting 101' may be 'implemented' by a robotic algorithm, a fully tenured professor, or a sessional lecturer, all with different financial structures, market potentials, and intellectual textures. Institutions capture more degrees of freedom to locate themselves in the market. The disruptive consequences for higher education are well documented (Daniel, 2013) even though sustainable business models for these new forms of provision are yet to be established.

These new access dynamics - relatively open curriculum and automated provision - enable the distribution of higher education to more different learners than ever before (OECD, 2012). As economies mature, not many countries are shrinking higher education, and even where there is unmet demand it can be serviced by global online providers. The student body is growing and diversifying, ramping up pressures on universities around provision and support.

While learner demand grows, the supply of teachers is bottlenecking. In many systems universities are facing workforce pressures such as increasing international competition for talent coupled with a looming tranche of retirements (Coates & Goedegebuure, 2012). This means a lot, for even in the most programmed context skilled people are needed to create curriculum and teach. Teachers and other professionals need to support students. Academics need to produce research, and to integrate and synthesise information into knowledge. This basic restatement of core academic work is required as many of the most

vital facets of academic work are intangible, and all knowledge has a half-life, even in highly digitised environments. Displacing core teaching work to people on contingent contracts is symptomatic not curative

Of course, anyone working in or around universities recognises these pressures play out in different ways in different moments, and that the above review is necessarily incomplete. Yet these pressures account for more than a little of contemporary reconfigurations in higher education, to which this paper now turns.

### **The emergence of hybrid higher education**

Higher education, by mission or definition, resides in a state of perpetual change. But one of the great strengths of universities is their organisational capacity to morph and distribute, made feasible by - to stereotype - broad governance structures, loose managerial couplings, a highly creative workforce, and financial opacity. But there are limits and key boundaries - cost, capacity, planning, operations, etc. - have already been well stretched. New forms of higher education have emerged over the last decade, which are now transfiguring core university business.

'Higher education service firms'(for want of better term) are now well established in many fields, and can do curriculum and teaching better and cheaper than institutions (universities) operating on a legacy business model. These firms are difficult to describe, almost by definition. They take many corporate forms. They may or may not be accredited providers, national or global in scale and scope, for-profit or non-profit, held privately or publicly, and have large or small research capability. The function more as partners than consultants. Technology tends to play more than a bit role in their core business. Generally, these firms have production functions that have lower cost structures and increased economies of scale. They are eating into many of the most financially significant facets of sustainable university operation. Sample firms include Apollo Global, Laureate, University Ventures, Educomp Solutions Limited, Academic Partnerships, Pearson and Seek, in which Laureate recently took a sizable equity stake'. Large IT firms - Google, Microsoft, Apple included - are also entering the higher education market. The Australian Trade Commission (2013) provides a thematically grouped list of firms operating in this market.

But even if accredited to provide education within a given system, these firms are unlikely to be able to access markets typically restricted to universities. Nor do these firms, even with smart corporate positioning and prestigious boards, necessarily have the same depth or repute as universities. At the same time, universities with market access and well-refined governance structures suffer from legacy business models and the pressures noted above. Herein lie the deals giving birth to hybrid higher education. Increasingly, it seems universities are looking to education/business models for the most part being fostered by service firms that offer new technologies of learning and hence new production functions. Rather than compete with the new and more efficient business models, universities are seeing these as complementers' (Brandenburger & Nalebuff, 1998). The deal, in short, appears to be that the university partner offers brand, market access and intellectual infrastructure, while the educational service firm offers more productive and flexible economic potentials. Universities have long outsourced various corporate and research functions, but now they are outsourcing

1 See: [www.apoLLogLobaL.us](http://www.apoLLogLobaL.us), [www.Laureate.net](http://www.Laureate.net), [www.universityventuresfund.com](http://www.universityventuresfund.com), [www.educomp.com](http://www.educomp.com), [www.academicpartnerships.com](http://www.academicpartnerships.com), [www.pearsoned.com](http://www.pearsoned.com) and [www.seek.com](http://www.seek.com).

core academic business (and not just to contingent/sessional staff). Accredited institutions are forming hybrid alliances with non-accredited service organisations, seeding derivative joint ventures, bolstering academic governance arrangements, and reviewing the costs of provision. These ventures vary in structure and substance, and manifest a range of business models. Many of these are untested (Daniel, 2012), resembling the assertions made a decade ago (for instance: Coaldrake, 2000) about universities and faculty being unbundled into a credentialing skeleton.

As might be expected given the deliberately invisible nature of this trade which is not de rigueur and still largely secret, case studies are hard to find. Carlton (2012) has distilled a recent Australian case that highlights important dynamics. The company Online Education Services was founded in 2011 as a joint venture between Swinburne University and SEEK, an online employment recruitment company listed on the Australian Stock Exchange. Online Education Services trades as Swinburne Online (see: [www.seeklearning.com.au/swinburne-online](http://www.seeklearning.com.au/swinburne-online)). Commercially, this partnership diversified SEEK's education profile giving access to government-subsidised students at an institution with a proven track record in online education, and gave Swinburne access to an equity partner and rapid exposure through an employment agency reportedly touching around 20 per cent of the world's GDP. Academically, *"Swinburne University academic staff design, accredit and develop programs, while e-learning advisors employed through Swinburne Online support students and assess student learning outcomes"* (Carlton, 2012: 12). This division of labour, which separates production from delivery, casts new dynamics for academic and teaching responsibilities. These interlinked workforces are framed by different industrial arrangements and provoke new governance questions, including as related to for-profit provision.

As this case brings out, much though not all of this fusion is driven by education redesigns underpinned by online learning technologies. Implemented proficiently, online or blended provision has the capacity to lower cost and sustain or boost outcomes (Twigg, 2005; Staton, 2012). The excitement of online learning has infused higher education for nearly two decades, fuelling creative ideas about alternative forms of provision, new economies of scale, and the demise of campus-based education. Unsurprisingly, universities have proven their resilience over the last decade, sustaining continued confidence of and investment from governments, faculty and learners. Hence it is no small development when campus-based universities start incorporating sophisticated technological capability into core institutional activities.

These new arrangements are important to higher education. Regulatory intervention and domestic subsidy has the capacity to sustain universities for only so long. At the same time, domestic protection and adherence to legacy business models may have hindered the capacity (and perhaps willingness) of universities to respond to emerging commercial dynamics in the smartest or most nimble ways. In the face of competitive pressures it appears that rather than look to subsidy and protection, higher education must become more productive. Adopting redesigned business/education model enables universities to lower costs and scale provision.

### **Pressing quality frontiers**

Invariably, these new configurations raise questions, and pressures, about standards and how institutions monitor and enhance what teachers and students know and can do. The more standardised production of curriculum and provision via learning management systems, for instance, may work to compress quality while at the same time ensuring above minimal levels of provision (Coatesjames & Baldwin, 2005). Many pressure points stem from

the change forces explored above. Ultimately, however, there are two critical areas that while already reasonably well-trodden (Coates, 2006, 2012) are in need of even more sustained attention - student engagement and learning outcomes. In key respects, these are pressing change frontiers. It would be too radical - just - to claim that due to the increased delegation of education to learners, institutions can no longer be held to account. But undoubtedly how students engage is even more instrumental to production. Likewise, assessing what students know and can do takes new stakes in a post-compulsory environment in which access to knowledge resources is quite freely available. Managing, and thriving, in this new context demands a specialised tertiary workforce, and the following closing remarks speak to what this entails.

Higher education is post-compulsory in many respects, and universities have limited means of compelling student behaviour. Universities might once have left the bulk of learning coordination to students, though relied on admissions, curriculum, teaching and assessment to manage. But asynchronous forms of provision open even more flexibility and decoupling that, without intelligent steering, fuels greater risk that students move unguided and run off the rails. Learning from electronic robots brings reach, fresh economies, customisation and networks, but also raises risks of standardisation, loneliness and confusion. Dropout rates in new hybrid forms of provision are difficult to assess, but reports suggest can be as high as 70-90 per cent (University of Phoenix, 2012; Daniel, 2012). In this context the quality of the 'student experience' - a quick buzzword but with complex texture, explored below - assumes even greater prominence. Engineering an engaged experience becomes an even greater differentiating factor for students, for teachers, and for institutions and hence systems.

Recent national research in Australia has set new conceptual and system-wide foundations for what an engaged experience entails. Building on nearly two decades of research into the student experience (James, Krause & Jennings, 2010) and a decade of innovation around student engagement (Coates, 2009), a series of projects in 2011 and 2012 has established ingredients of engaged student experience and road-tested system-wide implementation (Radloff, Coates, Taylor, James & Krause, 2013). Conceptually, this work distilled four core facets of the student experience - Skills Development, Learner Engagement, Teaching Quality, Student Support and Learning Resources. Students/graduates must develop skills, and for this they need to engage, they need to be taught well, they need support - this is critical (Coates, Radloff & Ransom, forthcoming), and they require access to resources. These are basic facets of the student experience, and assuring their quality is imperative from regulatory, educational and commercial perspectives.

Over several years, institutions around the world have explored how these facets of the student experience can be measured, analysed and reported. In the United States, more than 1,500 institutions have participated in the National Survey of Student Engagement (NSSE) - and most institutions in Canada too. This work has been replicated in several other systems - Australia, China, Japan, Korea, Mexico, New Zealand, South Africa, among others (Coates & McCormick, 2013). In 2012, the collection of data in Australia on an engaged student experience took another step, becoming mandatory for all universities. The nationally developed University Experience Survey was administered for the second year, and for the first time to all bachelor degree students in the country. Reports and data are provided to institutions, and government intends on servicing the transparency agenda by publishing results on the 'My University' website (Australian Government, 2012).

Data collection is a mere, but necessary, precursor to review and improvement. To date, data collection may have swamped improvement work, partly because of the practical challenges

associated with measurement and the sensitivities associated with this change frontier. In the era of 'big data', however, this is no longer the case. The broad argument here is that the responsibilities and opportunities for failing to measure and improve have grown too large to be ignored. Ensuring an engaged student experience is critical to success in the 'new' higher education. Not least, because students appear to like learning with other people.

Engaging students is necessary but not sufficient to ensure quality education. Technically, good education reduces to students achieving high-quality outcomes. Any such repositioning of curriculum and teaching, as sketched above, carries implications not just for engagement but also, and more so, for learning outcomes and their assessment. Program accreditation is not sufficient to assure individual competence (Coates & Seifert, 2010). Especially in new and reconfigured higher education, where program and learner characteristics are uncertain, student assessment carries new and different gravitas.

Institutions (or faculty or departments) can use various ways to establish what students know and can do. The collegial approach provides one option, albeit with limitations in scope and scale (Coates, 2010). Commercial assessment services are proliferating, even for the most boutique areas of study. In certain instances - notably perhaps generic skills' - governments and big business intervene, in part seeking metrics that can be used to differentiate providers on education grounds. These efforts, combined, paint a picture of educators searching for new forms of 'authorising' learning. In essence, the quest is for an independent circuit breaker' capable of distancing assessment and credentialing from curriculum and provision. In this environment the search for authoritative assessment becomes competitive for institutions, not just for students. In most cases leaning back on structure, even elite structure, fails. Private production inflates risk and hinders comparison.

This sparks the search for new externally credible forms of assessment. New systems are required, and this paper reviews several options - the provision of 'shrink wrapped' tasks, training academics, task review or benchmarking, the development of collaborative item Libraries, process or data moderation, and the deployment of stand-alone tests, and improving capacity and systems.

Externally validated assessment tasks can be developed for a large number of higher education subjects. Achieving consistency across tasks can be vital, because variations in task severity will register as variations in student achievement, regardless of actual competence. Broad subjects based on a single textbook, which take a 'shrink-wrapped' approach, can be accompanied by assessment materials. These materials can incorporate formative assignments for continuous assessment as well as validated examinations or items. The tasks themselves could be supported by notes for managing the assessment, analysing data, interpreting results and reporting achievement. A degree of flexibility would presumably need to be designed into the tasks to both encourage and support local adaptations. These assessments could be designed to fit different levels and fields of study, and may include performance tasks, portfolios, open ended questions, constructed response items, and multiple choice questions. The validated tasks for these mass subjects could take many different forms, their defining characteristic being that they are designed to optimise the measurement, diagnosis and enhancement of learning.

Many higher education subjects are specialised in nature or small in scale, however, and it may not be feasible to develop fully validated assessments. It is important, nonetheless, that the resource-consuming nature of assessment design does not inhibit high-quality



practice. In such instances, the most appropriate approach may be to train academic staff. An awareness of basic principles of assessment design and advanced practice would develop the capacity of teaching staff to enhance their own assessment tasks and activities. It would also have more general pedagogical benefits, by requiring academics to think not just about what and how they teach, but about what students are expected to learn and how they should be assessed.

Training teaching staff in assessment could be coupled with a process of assessment task review, in which technical experts or academic colleagues offer feedback on assessment tasks and approaches, and ensure that tasks are of appropriate quality. This feedback may reference quality criteria for student assessment. Of course, this currently happens for many courses and assessments, but the process is by no means universal. The largely individualised development of assessment tasks can make it difficult to develop informed and generalisable criteria which map out thresholds of increasing performance. It can be difficult, as a result, for institutions to assure the quality of the tasks which are themselves used to set academic standards.

Creating good assessment requires scale economies, which bolsters the value of collaboration. Collaborative production takes new shape in the "*sharing economy*" (The Economist, 2013), in which access trumps ownership and people seek to maximise the value and use of expensive resources. In general terms, the academic model resembles that used for collaborative research production and review (Coates & Seifert, 2010). The Australian Medical Assessment Collaboration (Edwards, Wilkinson, Coates & Canny, 2012) provides an example. By sharing development, educators and their institutions reduce costs of production while assuring the quality of development processes, standards and outcomes. More beyond development could be shared, including assessment administration, data analysis, or results benchmarking. Of course sharing can mix poorly with the security requirements of assessment, particularly where the disclosure or leakage of material leads to waste of expensive items.

Moderation might be used to ensure the generalisability of assessment standards and outcomes. In general, moderation requires teaching staff to review samples of student work to assure the comparability of standards across contexts. Such moderation may be conducted on an ad hoc basis, as often already occurs. It is preferable to design robust and scalable management systems, however, to ensure that outcomes can be quality assured. Moderation could be managed by a cross-institutional agency, as in many senior secondary contexts, or perhaps by a cluster of discipline-specific agencies. The UK External Examiner system illustrates one implementation of moderation in higher education (QAA, 2008). It might involve statistical calibration processes to help equate standards, highlight unusual scores and to manage moderation processes.

Along with the development of formative assessment practice, stand-alone tests can be used to measure critical thinking, problem solving, discipline-specific and numeracy skills. Such tests have become popular over the last decade for monitoring the standards of institutional provision. The Assessment of Higher Education Learning Outcomes (AHELO) (Coates & Richardson, 2012) provides an overview of this kind of work. Such tests have the advantage of providing objective estimates of each participant's performance. Data provide external points of reference which can help validate assessment processes and inform moderation and final grading. Similar triangulation may be obtained by drawing, where

appropriate, on Licensing examinations, consistent feedback from graduate employers or professional bodies, or other information about the performance of graduates.

Education systems are evolving rapidly, yet currently there exists no industry-wide infrastructure for learning in the same way, for instance, as there are systems for scholarly publication, the training of academics or - as has developed in many countries in recent decades - the evaluation of teaching. This needs to change - systems need to take shape, for if the analysis above seems reasonable then the need to 'authenticate learning' will continue to grow in significance.

### **Concluding imperatives**

The contention in this paper is that a plethora of change forces are buffeting universities and reconfiguring core facets of undergraduate education and institutional positioning. New business and education models are forming, with particularly interesting derivatives being spawned through deals struck between universities and education service providers. Such hybridised higher education has alluring economies, but also fundamental implications for experiences and outcomes. This carries implications for quality assurance methods and practices, and for institutions to find and make 'blue oceans'. The paper explored these, and rationales and approaches for the new forms of authentication required. It closes by reviewing a few broader implications from these changes.

It may seem unavoidable to see matters analysed here as carrying gloomy consequences for universities. This is not (necessarily) the case. Forecasting the demise of the traditional university is a popular pursuit, but universities are resilient. A decade ago books about virtual provision foretold the demise of campus-based provision, yet the same institutions have now incorporated e-learning and converted computer labs into learning commons. Different institutions will be affected in different ways (Lawton & Katsomitros, 2012), though with effective leadership, universities are well positioned to capitalise on change and growth. But as Barber, Donnelly and Rizvi (2013) have argued persuasively, past conversations will not move institutions into the future. New generation thinking is required to drive innovation. In post-compulsory contexts in which responsibility for learning is largely devolved to students, institutions must take active leadership over engineering an engaged student experience and implementing mechanisms to authenticate learning outcomes. The change contexts reduce the strategic plasticity of universities and put reflected pressure on them to identify and operationalise a distinguishing mission. *"Winners will be those with best brands and agile business models that balance scale, selectivity and price"* (BCG, 2013:18). Policies and practices are being developed in many systems.

Shifting the focus of educational gravity in these ways triggers the need to structure higher education using new parameters. For instance, is the education owned publicly or privately, and what are the debt and equity arrangements? What forms of governance are in place, and what of leadership and management infrastructure? What is the provider's market position given scope (local, regional, national, international) and scale (elite or open)? What of the research, teaching or service functions of the provider? How about curriculum, teaching and assessment - who owns it, who does it, and who accredits it? Debating learning pathways and authentication quickly provokes consideration of credentialing, and of the relative interests and incentives that drive institution and student performance. While beyond the scope of

this paper, these parameters and others will be needed to shape any cogent analysis of organisational and educational activity and performance.

The change forces reviewed at the start of the paper are far-reaching and diffuse rather than localised, and are spurring "*disruptive innovation*" (Christensen, 2011) on many fronts. This paper has concentrated on the essential function and implications of an engaged student experience and authentication of learning outcomes. Almost all of the other forces discussed, and others, are being reshaped as environments and institutions shift. In perpetually more market-driven contexts, topics like institutional transparency and diversification assume greater weight, and urgency. How are institutions going to use the quality differentials explored here to distinguish themselves from their peers? Interactions between academic standards and the economies of learning demand sustained analysis.

All of this has implications for leading and working in higher education institutions, which goes to leadership and workforce development. New forms of governance, provision, knowledge, regulation and in certain instances ownership, project new strategic landscapes, necessities and opportunities. New roles are being formed and will be required to support and deliver alpha performance in link directly with institutional, policy and scholarly research. In Australia in recent years, many institutions have established leaders and managers of student engagement, typically with institution - or faculty-wide roles. Such roles vary in their scope and scale, but invariably they require broad understanding of student learning and development, institutional systems, and how to influence policy and practice. Less common in Australia and many systems, though relatively standard in the United States, are institution-wide student learning and assessment positions. These are leaders and staff with responsibility for supporting and assuring high-quality assessment. Of course, the actual functions exist in any institution with authority for authenticating student learning, though often parcelled into many positions rather than distinguished as a separate profession.

In important respects, despite a plethora of new organisational architectures, diversification of programs or institutions would appear to be an immediate casualty of the change forces described in this paper. The pressures analysed in this paper resolve towards more uniform tertiary education delivered via a form of hybrid structure. But are such configurations just transitions on the way to other more permanent arrangements? The vectors along which systems and institutions steer through contemporary complexities will shape the differentiation and stratification that emerges, with direct consequences for the number and characteristics of institutions, links between research and teaching, and the rudiments of the academic profession.

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