

Don't Leave Me Hanging on the Anglophone: The Potential for Online Distance Higher Education in the Asia-Pacific Region

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Abstract

In the last decade there have been many attempts to mount online distance higher education programs on a global scale, led by the e-learning industry and university companies and consortia, some with government support: e.g. Universitas21 Global, Cardean University, Fathom, NYUOnline and the UKe-University. A primary commercial objective has been student markets in the Asia-Pacific nations, especially China, given unmet domestic demand and the growth of cross-border education. However while for-profit providers such as the University of Phoenix Online have shown mass online programs are viable in targeted markets, albeit more expensive than face-to-face programs, would-be global ventures have faltered or collapsed. The paper reviews the failure of English language global e-learning in the light of industry marketing strategies, the economics of online education, and the specifics of Asia-Pacific nations including unmet demand for education. It argues that for exporter universities, the potential of cross-border online education can only be realised if communications capacity in the Asia-Pacific nations is enhanced; and online programs are teaching-intensive, and customised for cultural and linguistic variations. Long-term equal partnerships with local and system providers are essential. For policy makers, the implosion of global e-learning points to the need to use expert judgment in relation to the different options for enhancing the capacity of higher education at home and abroad. It also suggests the need for greater scepticism about commercially driven scenarios and claims of company prospectuses, and about the viability of market-controlled paths of development.

Keywords distance education, online education, unmet demand, Asia-Pacific, commercial education, language of instruction

Introduction: the idea of a global virtual university

Online technologies have augmented communications, data retrieval and discussion in higher education. In formal degree programs, in nations moving towards universal Internet capacity, the online dimension is an important adjunct to face-to-face teaching and learning, including student assessment and administration (Bates, 2001). Among many, Fisher (2001) reviews the then published work, and ongoing research programs, in relation to pedagogical applications of online technologies in the USA. Gallagher (2001) summarises the deployment of online technologies in classrooms in Australian higher education. There has been a larger transformation of the potential of distance education. Networked computer-mediated communications enable the creation of different distance learning environments compared to programs based on printed texts, broadcast media and/ or post and phone. The online mode retains the flexibility of earlier distance education modes while opening new possibilities such as continuously updated learning materials, continuous curriculum design reflexive within the course group, and asynchronous discussion in virtual classrooms. Relative to face-to-face teaching there are both gains and losses. (The author can attest to some of the gains and losses from personal experience. Since 1998 he has conducted most of his postgraduate teaching in solely on-line mode, i.e. with no face-to-face contact with students at all; with the significant exception of doctoral degree supervision).

Over the last decade a consensus has emerged about the centrality of online systems in administration, as part of the face-to-face classroom, and in distance learning. Many also see the potential of online technologies as larger and more transformative than this. Among policy makers and university leaders the new potentials of distance education have been associated with much speculation and high hopes fed by the 'e-learning industry' in the commercial production, marketing and delivery of online curricula and degrees. In nations with mature higher education systems many non-profit universities, and also for-profit providers from higher education and the information and communications technology (ICT) sector, have focused on e-learning platforms and curricula. Online higher education is widely imagined as an emerging global electronic market: one that might in the end displace face-to-face learning as the principal learning environment, and at the least has the poten-

tial to bring higher education to vast new student populations through vocational programs and cross-border international education delivered via cable, telecommunications and satellite.

This 'Idea of a Global Virtual University' and the competition for first mover advantage in the apparently emerging market has driven an isomorphistic pattern of investments across the higher education world, especially in the English-speaking countries. Many institutions, consortia and companies, some with national government backing, have established fully-fledged commercial operations for marketing and providing online higher education. It is assumed that once viable prototypes are created online education will spread rapidly, like some other forms of e-commerce, in a massive development of global e-degrees. It is a short step to imagining one big Global E-University with credit card facilities operating all over the world; an engine of universal enlightenment and a mighty money-making prize for the Vice-Chancellor or CEO who creates it. Nevertheless in high participation English-speaking nations and Western Europe the Idea of the University is fixed in bricks-and-mortar and e-learning faces the barrier of tradition. Many hopes for commercial online education have been focused on Asia as the new frontier, with over half the world's people, rapid economic growth in many nations including global giants China and India, significant unmet demand for higher education, and a growing desire for education in cross-border forms.

'Who will educate China?'

The way to the Global Virtual University has turned out to be a rocky road. Expectations peaked in the late 1990s when American equity markets were flush with capital for e-ventures, and management guru Peter Drucker declared that within 30 years bricks-and-mortar universities would be replaced by virtual universities (Drucker, 2000; Cervini 2004b). 'Who will educate China?' posed the front page of *World Higher Education Reporter* a newsletter on global trade in postsecondary education published by *University Business*, and itself one of the outcomes of the new boom in e-learning, in September 2001 (Borton, 2001). No doubt a large number of readers of the *World Higher Education Reporter* were out there trying to do exactly that.

But half a decade later the picture looks very different. Few English-speaking universities and companies have actually enrolled degree students in the Asia-Pacific. Most of the ventures are bankrupt. None have become rich. *World Higher Education Reporter* itself has disappeared.

The paper reflects on the provision of online distance higher education in the Asia-Pacific region in the light of this experience. The Asia-Pacific region is defined to comprise the countries in the long arc from Pakistan and India to Japan and Korea where the majority of the world's population and unmet demand for higher education are located. It includes East Asia, Southeast Asia and South Asia (the Indian sub-continent) but not central Asia or the Middle East, where, arguably, the factors affecting demand and supply are different. The paper briefly examines the Asia-Pacific nations and demand for higher education; and reviews the political economy of online distance education including regulation. It then focuses on the trajectory of the industry, discussing the expectations of online higher education in the Asia-Pacific region and providing an explanation for the failure of those expectations to be met. The paper finishes with implications and conclusions.

Some readers will question the absence of discussion about quality assurance of online distance education. Valuable material bearing on this topic is available, for example that of van Damme (e.g. 2001), McBurnie and Ziguras (e.g. 2001), and the international section of the website of the US Council for Higher Education Accreditation (CHEA, 2004). The author has contributed to this discussion. However this paper eschews a focus on quality assurance because while quality assurance is an important aspect of a viable global regulatory framework, an exploration of quality assurance mechanisms does not take us far in investigating the political economy, educational and cultural aspects of the cross-border online industry in the Asia-Pacific region. Quality assurance does not explain why the industry rose and fell in spectacular fashion; or necessarily even recognise that the industry has a problem. At worst, a focus on quality-assurance mechanisms can neglect or obscure weaknesses in the industry, for example the problem of inadequate technological capacities, the need for innovations in pedagogical methods, the mono-cultural character of existing online curricula and the absence of linguistic plurality in online programs, and the asymmetries between foreign providers and local educational authorities and institutions in the Asia-Pacific nations, etc. Quality assurance is a good servant but a bad master of institutional practices, educational policies, and educational thought.

Higher education and the Asia-Pacific

The Asia-Pacific is the largest region in the world in demographic terms (see Table 1) and parts of East and Southeast Asia exhibit the most rapid

TABLE 1
Asia-Pacific countries: population, economy and education

Country	Population	Gross Domestic	Gross National	Public spending	Gross tertiary
	2003	Product (GDP)	Income per	on education as	education
	2003	2003	head PPP 2003	share of GDP	enrolment
				2001	ratio 2001
	millions	\$ billion USD	\$ world PPP	%	%
<i>East Asia</i>					
China	1,288.4	1,409.9	4,990	#2.1	***12.7
Hong Kong China	6.8	158.6	28,810	4.1	- ¹
Japan	127.1	4,326.4	28,620	3.6	***47.7
Korea	47.9	605.3	17,930	3.6	82.0
Taiwan	*22.5	-	-	-	-
<i>Southeast Asia</i>					
Cambodia	13.4	4.3	2,060	2.0	2.5
Indonesia	214.5	208.3	3,210	1.3	15.1
Laos	5.7	2.0	1,730	3.2	4.3
Malaysia	24.8	91.3	8,940	7.9	26.0
Myanmar	49.4	-	-	***1.3	11.5
Philippines	81.5	80.6	4,640	3.2	30.4
Singapore	4.3	91.3	24,180	***3.7	- ²
Thailand	62.0	143.2	7,450	5.0	36.8
Vietnam	81.3	39.2	2,490	-	10.0
<i>South Asia</i>					
Afghanistan ³	28.8	-	-	-	-
Bangladesh	138.1	51.9	1,870	2.3	6.1
Bhutan	0.6	0.6	-	***5.2	-
India	1,064.4	599.0	2,880	***4.1	***10.6
Maldives	0.3	0.7	-	##3.7	-
Nepal	24.7	5.8	1,420	3.4	5.4
Pakistan	148.4	68.8	2,060	***1.8	- ⁴
Sri Lanka	19.2	18.5	3,730	1.3	- ⁵
<i>Pacific</i>					
Cook Islands	-	-	-	-	-
Fiji	0.8	2.3	5,410	5.5	- ⁶
Kiribati	0.1	0.1	-	-	-
Marshall Islands	0.1	0.1	-	10.6	-
Micronesia	0.1	0.2	-	7.0	3.6 ⁷
Nauru	-	-	-	-	-
Papua New Guinea	5.5	3.4	2,240	***2.3	***2.1
Samoa	0.2	0.3	5,770	4.5	6.5
Solomon Islands	0.5	0.3	1,630	***3.5	-
Tonga	0.1	0.2	6,890	5.0	3.4
Tuvalu	-	-	-	-	-
Vanuatu	0.2	0.3	2,880	10.5	4.0

* = 2002 data. ** = 2001 data. *** = 2000 data. # = 1999 data. ## = 1998 data. GDP = Gross Domestic Product. GNI = Gross national income (formerly GNP). PPP indicates data converted to Purchasing Power Parities to reflect local buying power. - indicates data not available. Sources: World Bank data and statistics (2004) <http://www.worldbank.org/data/countrydata/countrydata.html> (primary source); Asian Development Bank (2003), Asian Development Bank (2004).

Notes:

¹ In 1997 was 29.0% for men and 26.0% for women (all 1997 data from ADB 2003).

² In 1997 47.0% for men and 40.0% for women.

³ Population estimate does not take account of recent refugee flows.

⁴ In 1997 4.4% for men, 2.6% for women.

⁵ In 1997 6.0% for men, 5.0% for women.

⁶ In 1997 16.6% for men, 10.3% for women.

⁷ ADB (2004) reports 14.9% in 1998.

economic growth. The Asia-Pacific nations are culturally and linguistically diverse, with many different histories, economies, natural and cultural environments; and different educational traditions and policies. They are variously positioned in economic development. Nevertheless in every Asia-Pacific nation except OECD members Korea, Japan, Australia and New Zealand, participation in education will probably grow markedly in future.

The Asia-Pacific can be understood as six sub-regions. First, the export-oriented East Asian nations: Japan, Korea, Taiwan and China which is the world's largest site of unmet demand for higher education.

Second, two Sinophobe city-states, global hubs of finance and the knowledge economy: Hong Kong at the edge of China and Singapore in Southeast Asia. Japan and Korea have strong universities and enough places for domestic students; Taiwan, Hong Kong and Singapore have strong institutions but insufficient places. China is under-developed in both quantity and quality. All nations are active importers of higher education. Japan is also a significant exporter of university places, particularly to China and Korea.

Third are the Southeast Asian nations that combine Indian, Chinese and in some cases Muslim influences with localised variations and European/ American elements. Most have large populations with a diasporic Chinese element active in cross-border education. Levels of economic development and educational provision range from Malaysia, combining a first-world urban core with a typically Southeast Asian rural peasant hinterland; to Thailand on a similar path; to the diverse archipelagos and fluctuating economies and politics of Indonesia and the Philippines; to Vietnam, poorer but an emerging 'tiger' economy; and the least developed Laos, Cambodia and Myanmar. Malaysia, Thailand and the Philippines have high participation tertiary education systems relative to most Asia-Pacific nations. The first two nations plus Indonesia and Vietnam are significant importers of tertiary education.

Fourth are eight South Asian nations: the massive populations of India, Bangladesh and Pakistan, Sri Lanka, war-torn Afghanistan, Nepal, and small Bhutan and the Maldives. These economies and education systems are undergoing an uneven modernisation in which large numbers remain undernourished, unhealthy and illiterate. Participation in tertiary education is relatively low, but India has some strong institutions and in most South Asian nations the growing middle class is becoming more interested in cross-border education.

Fifth are the aid-dependent Pacific islands plus larger Papua New Guinea, one of the poorest under-developed nations in the whole region.

Sixth are the English-speaking settler states Australia and New Zealand, exporters more than importers of cross-border education. As English-speaking developed nations with established higher education systems and above OECD average participation rates, and significant educational exporters with relatively low imports (OECD, 2003; OECD, 2004a), Australia and New Zealand have a potential in relation to cross-border online distance education that is distinct from the other nations in the Asia-Pacific. Korea and Japan are also placed differently from most of the Asia-Pacific because they have fully developed capacities in tertiary education, with enough places to educate most of the school leaver age cohort. Unlike Australia and New Zealand, they are also significant importers of foreign education.

People and economy

Ten Asia-Pacific nations have populations of more than 50 million people (Table 1). China, India and Indonesia are three of the four largest nations in the world. As Table 2 shows, ten of the world's 16 cities with over 10 million people are located in the Asia-Pacific. Two more cities will soon reach that size. Others such as Seoul and Bangkok are also large. The Asian mega-cities are immense concentrations of present and future demand for education.

Gross National Income per head exceeds \$10,000 USD per annum in Japan, Hong Kong, Singapore and Korea, and also Taiwan, societies with broadly-based choices in relation to education. Malaysia will probably soon reach this income level. Japan's earlier role of dynamic growth engine has been assumed by Korea, Taiwan, Singapore and above all China, where GDP growth averaged 12.4 per cent per annum in 1990–1995 and 7.9 per cent per annum in 1995–2002 (World Bank, 2004). On some projections China will produce 20 per cent of world GDP within two generations. Between 1985 and 1997 China pushed its share of world manufacturing exports from 0.5 to 4 per cent and sharply increased its presence in medium technology and high technology sectors. China, Korea, Singapore, Malaysia and the Philippines have restructured in favour of more technologically-intensive industries, expanding needs for tertiary educated workers in technologies and services. In Southeast Asia Singapore, Malaysia and for the most part Thailand have grown rapidly; though Indonesia and the Philippines have been more uncertain. Vietnam sustained an annual average of 6.7 per cent in 1995–2002, strengthening demand for education. The Indian

TABLE 2
Mega-cities, world and Asia-Pacific region, 2000 and 2015

Cities projected to have more than 10 million people in 2015		Population of city in:	
		2000	2015
		millions	millions
<i>Asia-Pacific countries:</i>			
India:	Mumbai	16.086	22.577
	Calcutta	13.058	16.747
	Delhi	12.441	20.884
Bangladesh	Dhaka	12.519	22.766
Pakistan	Karachi	10.032	16.197
China:	Shanghai	12.887	13.598
	Beijing	10.839	11.671
	Tianjin	9.156	10.319
Japan	Tokyo	26.444	27.190
	Osaka	11.013	11.013
Indonesia	Jakarta	11.018	17.268
Philippines	Metro Manila	9.950	12.579
<i>Other countries:</i>			
United States	New York	16.732	17.944
	Los Angeles	13.213	14.494
Brazil	Sao Paulo	17.962	21.229
	Rio de Janeiro	10.652	11.543
Mexico	Mexico City	18.066	20.434
Argentina	Buenos Aires	12.024	13.185
Nigeria	Lagos	8.665	15.966
Egypt	Cairo	9.462	11.531
Turkey	Istanbul	8.953	11.362

Source: ADB (2002).

economy is now growing more rapidly, notably in trade in ICT-related products.

Higher education and its financing

All Asia-Pacific governments want to augment national economic, social and cultural capacity. In 'Education for global participation', an essay attached to its 2003 annual statistical report, the Asian Development Bank puts the common position:

Higher education in the information age will play a greater role in preparing Asia's labour force than in the past . . . However, many major players in the new world economy have low levels of tertiary enrolment even among the

young. For example Bangladesh, China, India, Indonesia, Malaysia, Pakistan and Sri Lanka, to name just those heavily involved in the global economy, have traditionally under-invested in higher education, and relied on good quality secondary schooling to supply productive labour for economic growth. Even though they are gradually expanding higher education enrolment they continue to lag behind (ADB, 2003, p. 29).

On the supply side all Asia-Pacific nations want to augment total graduate numbers and also capacity in specific areas such as science and technology, foreign languages and business management (TFHE, 2000). On the demand side most Asia-Pacific nations face growing domestic pressures for more higher education places, driven by growing job opportunities for graduates and the broadening and deepening of social aspirations for upward mobility through education. Apart from Japan, Korea and to a minor extent China, the Asia-Pacific nations will not undergo the demographic decline in the 15–30 year age group facing many OECD nations. Between 2000 and 2015 the number of 15–19 year olds will fall by 9 per cent in the average OECD nation and 18 per cent in Japan, but rises by 12 per cent in India, 16 per cent in Malaysia and 18 per cent in the Philippines (OECD, 2004a).

It is not clear how the modernising Asia-Pacific nations will provide modernised higher education. Table 2 shows that except in Malaysia and some Pacific islands government expenditure on education as a proportion of GDP is low compared to the OECD country average of 5.2 per cent in 2000; and very low in China (2.1 per cent in 1999), Indonesia (just 1.3 per cent in 2001), Myanmar, Bangladesh and Sri Lanka (OECD, 2003, p. 227). This relatively low government spending has three effects in shaping educational provision and participation in the Asia-Pacific region, including potential cross-border education.

First, in many nations the domestic provision of higher education will be inadequate to meet the quantity of demand for some time to come. In China the gross tertiary education enrolment ratio was 12.7 per cent in 2001. It will not stay that low, but the growth of capacity in higher education will be outstripped by the growth of demand. Unmet demand is likely to become a serious problem in Indonesia, possibly in Pakistan and Bangladesh, and also in Thailand where government spending was at 5.0 per cent of GDP in 2001. Even in Malaysia, with the highest level of public investment in Asia, relative to GDP, there have been insufficient public university places for Chinese and Indian families – one of the factors that has sustained Malaysia's high participation in cross-border education. (However, the local private college sector is now siphoning off some of that Chinese and Indian demand).

Second, low levels of public investment translate into significant problems of quality in many Asia-Pacific nations. A common pattern is for high achieving students to enrol in government-funded universities with other students paying fees in the private sector (though China is like UK and Australia in that the main system is comprised by state-developed universities charging tuition). Indonesia and Bangladesh are characterised by weak infrastructure and low staff remuneration. The Philippines combines high participation with low to medium level public spending, elite state universities undermined by funding cuts and like Indonesia, Bangladesh and India a long 'tail' of weak commercial institutions. Poorer developing nations like Laos, Cambodia, Papua New Guinea and Myanmar lack both quality and quantity: in 2001 Cambodia's gross tertiary enrolment ratio was 2.5 per cent.

Third, because public funding is low and quality problematic in many Asia-Pacific nations, habits of private investment in tertiary education, and foreign education, are entrenched. In China in 1999, 43 per cent of direct expenditure on tertiary education was private money, an average 21 per cent of the revenues of tertiary institutions were paid by households and household financing averaged \$1225 USD per year. In Indonesia 49 per cent of institutional revenues were paid by households, in Japan 56 per cent and Korea 63 per cent. Fees are also significant in much of the Philippines and Indonesia (OECD, 2003). Where student families are already paying domestic tuition fees, enrolling in fee charging cross-border education is a shorter step.

Demand for cross-border education

Cross-border education plays a significant role at the edge of Asia-Pacific higher education, and in cases such as Malaysia, Singapore and Hong Kong a larger part than this. In 2001, Malaysian students studying abroad represented 6.0 per cent of total tertiary enrolments in Malaysia. This ratio was 2.3 per cent in Korea and 0.9 per cent in both Indonesia and Thailand. In China in 2000, the proportion was 1.5 per cent of domestic students. Given the demographic weight of China this constituted the largest cross-border flow of students in the world. In 2001, of the cross-border students entering the OECD nations where most foreign education takes place, four of the five largest pools were from Asia. China provided 124,000 students, Korea 71,000, India 61,000 and Japan 55,000 (OECD, 2002a; OECD, 2003).

The most dynamic element in global student flows is the demand-supply relationship between on one hand the growing demand for

foreign education in the large demographic pools of the Asia-Pacific, on the other hand the magnet of English-language and especially American education because of the advantages it confers: for Asia-Pacific students a higher education in an English-speaking nation has status not just because of academic qualities but also the career benefits derived from learning to live and communicate in an English-speaking setting. This demand-supply nexus is driving the growth of global educational markets (Marginson, 2004). The Asia-Pacific supplies 42 per cent of the world's cross-border students, and a majority once non-commercial student exchange within Western Europe is taken out of the picture. Three quarters of all cross-border students from Asia enrol in an English-speaking nation. Research shows that Asia-Pacific students tend to rank higher education in country terms: American higher education is first choice, especially in China, followed by the UK and then the other English-speaking nations (Mazzaroll et al., 2001). The USA is the largest exporter of tertiary education with 475,000 students in 2001, followed by the UK (225,722), France and Germany, and Australia, which is third largest provider of degree programs (OECD, 2003). Asia-Pacific nations dominate entry into the USA and in 2002 supplied 85 per cent of cross-border students entering Australia (Table 3).

Cross-border education is largely self-financed. In the UK, Australia, New Zealand and most of American higher education cross-border students pay fees at levels sufficient to recover costs and often to generate a surplus as well. Table 4 shows that in 2001 the total annual cost of international higher education in the English-speaking nations, including average living costs, varied from a low of \$11,712 in New Zealand

TABLE 3

Principal sources of international students, USA and Australia (2002)

USA 2002–2003		Australia 2002	
India	74,603	Singapore	29,956
China	64,757	Hong Kong China	26,956
Korea	51,519	Malaysia	23,725
Japan	45,960	China mainland	19,596
Taiwan	28,107	Indonesia	11,981
Canada	26,513	India	8,390
Mexico	12,801	USA	8,325
Turkey	11,601	UK	5,752
Indonesia	10,432	Thailand	5,202
Thailand	9,982	Taiwan	3,977

Sources: IIE 2003; DEST 2003.

TABLE 4

Comparative cost of foreign study in the English-speaking countries, full-time master of business degree onshore in nation of education, 2001

Country	Visa charge	Annual tuition fees (median)	Annual living costs (average)	Total annual costs (median)
	\$US	\$US	\$US	\$US
USA (private sector)	45	24,810	8,529	33,339
USA (public sector)	45	10,898	8,529	19,427
UK	48	10,376	8,783	19,159
Canada	81	5,944	6,906	12,850
Australia	156	7,055	5,427	12,482
New Zealand	45	6,209	5,503	11,712

Total annual costs exclude visa charge. Exchange rates as at 1 June 2001 used for conversion to USD.⁸
Source: IDP 2001.

Note:

⁸ Australian dollar = 0.54c, New Zealand dollar = 0.43c, Canadian dollar = 0.66c, Pound Sterling = \$1.46.

to a high of \$19,427 in the American public sector and \$33,339 in the American private sector.

In 2001 the average annual cost of educating one cross-border student in the UK universities or American public sector was about 20 times annual per capita income in China, as measured using the Atlas method (World Bank, 2004). Cross-border students and their families have strong motivations. Demand is driven by three factors (Marginson, 2004). First, in many nations there are insufficient places in reputable degree-granting institutions at home. Second, there are expanding opportunities for globally mobile labour in fields such as business services, ICTs and scientific research. Education in the USA or another English-language nation provides favourable positioning in global labour markets. Third, graduates can use foreign degrees to secure status and mobility benefits. They enhance employment potential at home and abroad, and may open the way to migration to the nation of education or elsewhere. The second and third benefits can apply even for students from nations with large high quality higher education systems such as Japan and Korea where the number of places is adequate to fulfil domestic demand.

The Australian IDP (International Development Program) projects that between 2000 and 2015 total demand for tertiary education in China will rise from 8 to 45 million students and demand in China,

India and elsewhere will greatly exceed domestic capacity (Bohm et al., 2002). While such projections are attended by a host of problematic assumptions, there is no doubt that Asia-Pacific demand for cross-border education will grow, if only because of the status and mobility benefits it provides. Whether and to what extent this growing demand can and will be satisfied by online distance education is another question.

The political economy of online distance education

Online distance education is distinct from face-to-face programs not only in pedagogical potential but in the intrinsic economics and the regulatory issues.

Policy and regulation: facilitating the market

Contributions to successive OECD conferences on education and ICTs indicate that the governments of all developed nations want to see an augmented ICT capacity in higher education, including online program capacity. There are varying national policies on funding, infrastructure and research (OECD, 2004b). Mostly governments prefer to step back and let the industry develop, encouraging and perhaps subsidising its evolution, and facilitating global trade. Because e-learning innovations have been largely driven by the dotcoms and university e-learning companies themselves, online learning has spread most quickly in nations where investment and curriculum approvals are devolved to institutional level and universities readily enter partnerships with ICT companies, or develop their own companies. In those national systems where governments fund infrastructure, fiscal barriers can retard the rate of innovation. However, many governments favour devolution for commercial as well as educational/ social reasons. For example the Australian government welcomes the conversion of university teaching units into online form as 'positive steps in remaining competitive in the global marketplace for education' (Bell et al., 2002, p. 30; Gallagher, 2001).

Asia-Pacific national governments have been driven by education policy objectives rather than support for commercial activity for its own sake. For them cross-border online learning has the potential to augment national educational capacity and soak up part of the demand for foreign education at reduced levels of capital outflow and with a lesser potential for brain drain. At the same time online education, like foreign education provided by branch campuses of international universities, raises questions about whether the contents of on-line courses fits national values and needs. Though the regulatory environment varies by nation

(McBurnie and Ziguras, 2001), generally Asia-Pacific governments regulate online distance learning less closely than foreign branch campuses, especially when there is no local partner or learning centre that can be supervised: Internet communications are inherently difficult to regulate. Overall there have been few official impediments to cross-border online education in the Asia-Pacific. An investigation by the inter-governmental APEC group in services found that the main such impediments were in relation to the distribution of educational materials, but this mostly affects primary education (APEC, 2000). In negotiations in the WTO/ GATS round governments have mostly agreed to treat foreign providers and for-profit providers of online education with the same freedom to operate as local non-profit providers, though without providing financial subsidies. From the point of view of online education companies, the main problem is that as with foreign branch campuses, securing institutional and program accreditation can be slow and this stretches the time before start-up financing costs are offset by revenue flows. While e-learning in solely Internet-based mode can function without it, accreditation confers a marketing advantage and may be essential for locally-based activities such as distance learning centres, which are more important in countries where Internet capacity is narrowly distributed. Nevertheless, it is important to emphasise that overall, there are less policy and regulatory impediments to e-learning than to any other form of cross-border education. The obstacles to e-learning are elsewhere.

The economics of networked education

Under specific circumstances online education is cheaper in unit terms than other forms of education. The economics of networked education are most favourable within a single network grid operating at high volume, assuming a uniform curriculum and pedagogical service. This cost structure is intrinsic to networking. Technically the number of nodes in a network can be expanded towards infinity, creating an ever-multiplying number of connections at an ever-diminishing fraction of the original unit cost (Castells, 2000, p. 71). As a single network grows, the marginal costs of infrastructure, web platforms and curriculum development (though not the labour of communications and teaching/learning) tend towards zero. Unit costs tend to fall, and if marginal revenues can be sustained, the unit surplus generated by each successive entrant to the network will increase. In relation to financing, in a networked environment the velocity of the turnover of commercial capital is no longer

inversely related to the size of the market or the geographical dispersion of sites of production and consumption (Marx, 1973, p. 644; Marx, 1981, pp. 163–164). Provided there is unmet demand, both market size and market surpluses grow with increasing rapidity.

This suggests that if networking costs were the only consideration, and unmet demand for higher education could be satisfied by a uniform English-language online product, it would be possible to provide a common online curriculum to an ever-expanding number of sites, the rate of expansion determined by the pace of rollout of the Internet and the enterprise of producers, until saturation is reached. This was the logic of visions of the Global Online University: a single platform and curriculum, with prestigious professors on the website, distributed across a vast single market on the scale of vocational learning in the USA, or business executives all over the world, or unmet demand in China, or the demand for foreign degrees in the whole of the Asia-Pacific region. The vision starts to dissolve when the market is not one unified market but many markets; when local variations of educational content and/or delivery technologies are necessary so the fixed costs rise; when an online English-language curriculum cannot satisfy the unmet demand for higher education; and when the total volume of students is too small to reach the threshold level when the unit cost of online higher education becomes cheaper than other modes.

New online providers face the establishment costs of infrastructures and web platforms. There are parallel costs in establishing the bricks-and-mortar of new face-to-face higher education institutions. However these set-up costs are not faced by existing university producers of face-to-face education, which also enjoy the advantages of tradition and habit. This indicates that online education has better prospects as a solution to unmet demand, or by creating new markets, than by out-competing established universities – provided that telecommunications, bandwidth and/or satellite networks allow sufficient numbers of would-be consumers of online education to be reached in the new mode.

The full costs of cross-border online education – ICT infrastructure, maintenance and servicing; web-based platforms and e-curricula; off-shore negotiations and operations; and development; and especially teacher-student interaction; are now better understood than in the early days of the e-learning industry. In *Constructing Knowledge Societies: New challenges for tertiary education* (2003, p. 39) the World Bank suggests that ‘Quality online education is best achieved with relatively small class sizes, not to exceed 30 students’. Bates (2001) for UNESCO states that on-line distance education is no cheaper than face-to-face education and

more expensive than traditional distance education based on mail and broadcast modes except in units of 100 or less. Bates (2001) argues that the main virtue of on-line education is not cost savings but that it enables a broadening of the quality of the educational experience, for example by making use of Internet-based sources and new interactive modes of teaching and assessment. Some suggest find that online higher education is more expensive in unit terms than face-to-face programs when staff time is fully accounted for (MacKeogh, 2001, pp. 225–226). Unit costs become favourable only with very large populations. The British Open University, a large-scale distance educator operating at the high end of the quality spectrum, produces graduates at one third to one half of the cost of face-to-face provision (Task Force, 2000, p. 31; World Bank, 2003, p. 40). In the USA the Apollo Group's University of Phoenix (UofP) has successfully extended its 'convenience' vocational learning programs to e-learning mode, enrolling 37,600 online students by 2002. At this scale the unit cost of Phoenix's e-learning programs was higher than that of its face-to-face teaching, but the operating margin of UofP Online was higher than the face-to-face program. Ryan and Stedman (2002, p. 8) also report that DeVry and Keller Graduate School of Management priced their online program at one third higher than the campus program. This confirms the economics of networked educational provision as described in this paper.

In sum, rather than online distance education being universally cheaper than face-to-face education (and especially established institutions) the economic bonanza only comes into play once a very large market is achieved. This is the crunch. There are three ways of achieving a large-scale market. The first is by replacing existing face-to-face delivery. As noted this is difficult to achieve because prior institutions benefit from no establishment costs, and they also benefit from tradition and habit, especially in cases where the online education is presented as 'equivalent' to a face-to-face degree. To create a mass market by displacing existing universities depends on the new online product being seen as superior in terms of teaching/learning *and* the reputation of the degree; *and* on sufficient numbers of students being prepared to take the risk of transferring into online education. There are poor prospects of a 'no frills' online education will low intensity teaching being able to displace existing providers, and even a prestigious product will struggle. The second way of building a large-scale market in online higher education is to develop a niche field on a global scale, such as degree courses in business education for senior executives. The third way is by attracting new students to higher education either by providing vocationally-

focused degree programs – the field opened-up by American for-profit providers such as DeVry and the Apollo Group – or through cross-border education. In cross-border education the most promising opportunities might appear to lie in the Asia-Pacific region, given the scale of unmet demand for higher education and the willingness to invest in foreign English-language providers. Even so the building of large-scale online commercial education means a period of initial losses. Investors must have patience and deep pockets; the more so if what is being created is not just a new company but a new product and new market.

The first wave of would-be-online educational producers in the late 1990s did not always grasp the economic constraints; and initially many people in government and the universities hoped that online distance programs ‘equivalent’ to face-to-face programs could be provided at a fraction of the unit cost of face-to-face programs. The expected sources of savings were not just diminishing marginal costs, but reduced outlays on teaching and administration. Many in the e-learning industry encouraged this line of thinking. However it was flawed. The problem was the assumption of ‘equivalence’. Whatever the mode, students require interaction with teachers; and while some administrative processes can be effectively automated in on-line mode, others are person-dependent. Thus variable staffing costs do not tend to zero as the network expands. In cases where online education is provided with reduced staff intensity, the benefits of cost savings are cancelled out by reduced market appeal due to declining product quality. This kind of cost saving can only be obtained where there is unmet demand *and* low expectations about teaching services. Perhaps some English-language e-learning companies hoped that this description fitted students who were unable to access local higher education, for example Asia-Pacific students from nations where there was high unmet demand, who might tolerate a low level of interaction with teachers regardless of the problems of second language learning.

At best, the low quality online strategy was optimistic: it assumed that enough students would see an online foreign education, in English, with low interaction, as worth the money – that is, as superior to a cheaper distance education in their own language at home, *and* better and cheaper than acquiring foreign education on a face-to-face basis abroad, while maintaining an equivalent reputation as a foreign degree. At worst the low quality strategy rested on assumptions about the inherent cultural superiority of English-language education at any and every possible level of quality, and/or the gullibility of the foreign market: that is, it is assumed that large numbers of potential students would buy a foreign

online degree with low-intensive teaching on the basis that it was 'equivalent' to other foreign degrees, simply because marketing and quality assurance told them this is so, and perhaps because a well-known and respected university crest was located at the top of the website.

The first wave: the rise and fall of the Global e-U

The industry starts up

The emergence of the commercial online education industry in the second half of the 1990s was attended by a spirit of tremendous optimism. This was something more than the infectious commercial excitement that attends any marketing-dependent activity. Hyper-optimism was fundamental to the technology sector in the late 1990s, sustaining its equity prices and investment flows. The imaginings of Peter Drucker (2000) and others sanctified web-based learning as the next wave of the future, a *tsunami* that was sweeping the Ivy-clad university-of-the-past away. To invest in online educational ventures was to own a part of the future itself. Perhaps this rhetorical contrast was exaggerated by the persistently pre-modernist imaging of the university in popular culture, despite the fact that for the most part contemporary universities were creatures not of gothic medievalism but of post second-world war modernism. Consider films such as *Chariots of Fire* and *The Way We Were* that are centred on Oxford, Cambridge and the American Ivy League. University modernism is less photogenic and less emotionally compelling than those gothic spires, in which knowledge, authority and residual Christian belief are so solidly reconciled in the architecture itself; a haven constructing itself against and above the work-a-day world. The more compelling the image of gothic spires, the more that e-learning could be shaped as ultra-contrast. In the USA the for-profit education sector was attracting growing equity (Ortmann, 2002). For a time e-learning was marketed by equity brokers as the next dotcoms, and industry start-ups had generous access to venture capital. Many new e-learning companies were formed: from the ICT sector, from the for-profit education industry, by individual non-profit universities, and by consortia of these universities. Some undertook major investments in infrastructure, web-design and market research. (Few of the results of research on market demand are in the public domain. Such findings 'tend to be held tightly by market researchers and their clients' as Olsen (2002) notes. Various models for commercial e-learning developed, ranging from single e-universities promising to administer, teach and certify degrees; to

'hollow' e-institutions operating as a administrative portal on behalf of several member universities and directing students to the appropriate program within them, such as the Western Governors' initiative (Ryan and Stedman, 2002). Some proposals were for solely virtual universities; but most serious initiatives were by institutions and organisations that also had, or intended to have, a presence in face-to-face education and training activities.

The industry start-ups can be divided into two principal groups; those mounted by the commercial e-learning sector and those mounted from the orthodox non-profit universities. By 2003 there were an estimated 350,000 students in e-learning programs in the American domestic market (Maslen, 2004). Most of these enrolments were in vocationally specific programs: only a small proportion of American for-profit online providers offered degrees in their own right. The purely commercial online sector, derived from either for-profit education providers or dotcoms from outside education, was dynamic in developing new ventures but was less well placed than the established universities to claim reputation in higher education. One clear exception was the University of Phoenix (UP, 2004), the largest and fastest growing private university in the USA, which had built its standing as a commercial university prior to the e-learning boom and cemented it with television advertising. Others with significant online degree-level enrolments included DeVry University (2004) and Capella University (2004). However most of the commercial providers were confined to credit-bearing courses at undergraduate level that were underwritten by existing universities. A minority offered continuing and adult education programs that were not sanctioned by formal accreditation but often mandated by professional associations (van der Wende, 2002).

Some of the programs provided by American e-learning companies were designed to be extended or replicated across international borders. Though most of the 37,600 students at the University of Phoenix Online were American, Phoenix claimed a presence in 70 nations. (Numbers in mid 2004 are estimated at 60,000 (Cervini, 2004b): at the time of writing this had yet to be verified). A further group of initiatives were specifically developed offshore, usually in conjunction with local partners. The Apollo Group partnered Hughes Escorts Communication Limited to provide satellite-based services in India, with the aim of developing synchronous classrooms based on real-time video, audio and data transfer. A further group of companies emerged from outside the USA, especially in Asia. Singapore's PurpleTrain.com stated that it was offering 1,000 online courses, from certificate to PhD, to 55,000 'users',

including 1,200 registered under the UK University of Portsmouth BSc in Computing (Olsen, 2002). Many initiatives emerged within China, such as CampusAll.com, and NetBig Education Holdings Ltd, which in mid 2001 claimed links to franchise partners in 60 Chinese cities, and 85,000 education institutions including the University of California at Irvine (Borton, 2001).

Existing research-intensive universities enjoyed certain advantages in the new market. They were reputable teaching institutions (albeit in face-to-face programs). They had ready access to accreditation processes. They could draw on existing curricula and staff. Some e-learning initiatives were based largely or entirely on single universities, through their own e-learning companies and/or in partnership with commercial providers with industry expertise. New York University established New York University Online as a for-profit arm of the University, investing \$21.5 million USD between 1998 and 2001. It was focused primarily on courses in finance and management for corporations, in partnership with a number of companies including publisher McGraw-Hill and Docent software. A second group of initiatives consisted of consortia to spread initial investment costs and risks, and signify global reputation and reach: for example Universitas 21 and Cardean University (see more details below). A third, intermediate group of initiatives were led by one institution in conjunction with subordinate others. Columbia University's Fathom was developed in association with 14 other universities, including the London School of Economics plus libraries and museums. A fourth group of initiatives were underpinned by governments and worked across higher education systems; so as to join national reputation and resources to institutional reputation and resources and thereby augment global competitiveness. For example national e-learning ventures were supported by the governments of the UK, Canada and Sweden. Some American state governments assisted university-based online companies. Maryland spent \$40 million on the University of Maryland University College's distance education activities including UMUCOnline. Other state assistance included Virginia, Michigan and the Western Governors project (Ryan and Stedman, 2002, pp. 11 & 17).

Would-be industry leaders

The flagships of e-learning were a small number of large-scale initiatives based on consortia of established universities. Their goal was to become leading providers of online degrees at the global level. These initiatives

attracted major investments and were attended by considerable marketing, not to mention free publicity. Three are briefly discussed here: the UK e-University, Universitas 21/Universitas 21 Global, and Cardean University.

The UK e-University was announced in February 2000 by the UK government which provided £62 million over 2001–2004. It was conceived as a joint venture between UK universities and colleges, and the private sector, expected to provide further investment, to provide degrees to a primarily global market largely via the Internet. The aim was to ‘concentrate resources on a scale which can compete with leading US providers’ (UK Secretary for Education). Awards were to be provided by individual universities rather than the UKeU itself. It was expected to recoup its public grant of £62 million over 2001–2004: the enrolment target was 5,600 students by the end of the first year (Maslen, 2004).

Cardean University was based on Carnegie Mellon, Stanford, the business schools of Columbia and the University of Chicago and the London School of Economics. The initial investment was \$100 million USD. The intention was to create was a relatively high-quality Internet platform underpinning ongoing student support. Cardean’s business strategy depended on high volume sales of management education to senior and middle-level executives and managers worldwide: it targeted both the individual and corporate markets (Hirsch, 2001). Courses were an MBA taught in six-week subjects, and short programs of a few hours’ duration. Cardean was in partnership with ‘courseware developer’ UNext which had responsibilities in developing course content and marketing. Teaching staff were provided by UNext not the participating universities. In mid 2001 Cardean signed a training deal with General Motors and UNext established marketing offices in the Middle East and Korea with a branch in Singapore (Ryan and Stedman, 2002, pp. 10–11; WHER, 2001).

Universitas 21 is an international network of research-intensive universities drawn from the English-speaking nations, China, Singapore, Germany and Sweden. It was initiated by the University of Melbourne in Australia and launched in 1997. A primary goal of the Vice-Chancellor of the University of Melbourne, Professor Alan Gilbert was to establish an online university with global reach, focused especially on China. ‘It will be the e-education providers – not the traditional campus-based providers – who will reap most of the massive growth in educational investment’ he told Melbourne’s staff in 2000 (Maslen, 2004). Gilbert negotiated with Rupert Murdoch’s News Corporation as a possible partner, hoping to make use of the News Corporation satellite

system as well as the Internet, but News Corporation withdrew and was replaced by Thomson Learning. In October 2001 most of the Universitas 21 institutions joined with Thomson to launch Universitas 21 Global, designed to provide online courses catering for unmet demand for higher education, which was estimated at 32 million students worldwide. Half of the start-up capital of \$25 million USD was paid by the universities in the consortium at a minimum of \$0.5 million. Melbourne pledged over \$6 million USD. Universitas 21 Global courses were to be developed and packaged in Singapore, accredited by the participating universities, and quality assured by a separate arm of Universitas 21, U21pedagogica. At the launch of Universitas 21 Global Gilbert stated:

Traditional school leavers with no university to go to, and educated employees demanding further education, will revolutionise the supply of higher education around the world. The demand crisis in much of South, Southeast and Northeast Asia, in Latin America, Africa and parts of Eastern Europe will overwhelm the capacity of the traditional higher education model. Unsolved, this problem will threaten the essential viability of international trade and commerce, for in a knowledge economy, educational deprivation will be the most intractable source of poverty and alienation. The meeting of global higher educational demand thus becomes one of the most important challenges facing the international community.

There is only one possible solution to the emerging problem of global unmet demand for university education. Without the systematic, worldwide harnessing of information and communications technologies, the sheer scale of the emerging problem will render it insoluble.

... *Someone* will succeed in mobilising the immense potential of the Internet to deliver high quality higher education to millions of people. *Someone* will reap immense rewards by combining all the financial, corporate, marketing and administrative capability required to establish and manage a sophisticated international business operation, with the right technology platform, advanced information and solutions capability, high quality educational content, recognised pedagogical expertise. *Someone* will establish online the necessary brand recognition to create a viable, cost-effective alternative to the campus, even at the quality end of the market (quoted in Olsen, 2002).

Thus the advocates of commercial online education promised a broad mix of public and private goods, national and global in form. It looked good, and major initiatives were widely publicised and celebrated. But the under-pinning assumptions were not scrutinised. With competition driving the frenetic race to launch e-learning companies there was little scope for careful exploration and considered judgement, despite the sums of money involved. Every company was desperate to break through before the others. Industry executives had to secure support from the research-intensive universities and government, attract potential stu-

dents on and off shore and draw commercial investors. They mobilised the 'next wave' urgency to push through regulatory barriers such as accreditation and secure the sanction of university governing bodies and policy-making circles. In this atmosphere the few doubters who succeeded in making themselves heard were readily dismissed as anti-modern luddites.

The boulevard of broken dreams

In April 2000 and again in October that year, while many e-learning initiatives were taking shape, sharp declines in equity prices exploded the financial power of the dotcoms, and commercial financing for all forms of e-venture became harder to obtain. The equity funding of all education ventures fell by 70 per cent in the first quarter of 2001 compared to twelve months prior. Online education initiatives were especially vulnerable because they had 'so dramatically failed to deliver revenue' (Ryan and Stedman, 2002, p. 3). In 1999, US for-profit education attracted \$96 billion USD in revenues but e-learning ventures accounted for only \$500 million. Investment analysts became more sceptical about online learning. In the universities, as Ryan and Stedman note, 'managers have also begun to withdraw from their for-profit business ventures because these have not made "business sense" in the short term'.

The high start-up costs of communications systems, web platforms for student administration and teaching, curriculum software and marketing were increasingly apparent, especially for providers trying to operate in the Asia-Pacific region. Many e-learning initiatives went bankrupt. Others made a strategic retreat to niche areas – for example schemes for comprehensive e-universities scaled back to management education; and degree programs in management education scaled back to short courses. Even in the niche areas progress was slow: Van Der Wende reports that a 2001 survey of the Association to Advance Collegiate Business Schools found that of 116,494 MBA students in the USA only 2.5 per cent were taking the program online. There was also a greater emphasis on partnerships between universities and commercial online firms to marry reputation and expertise (Van Der Wende, 2002, pp. 8–9). The business and marketing strategies of industry firms exercised an increasing influence in the educational character of online programs.

But the downward spiral continued, taking with it the larger, sustained and more prestigious initiatives. These were either scaled down or discarded altogether with the liquidation of their accumulated infra-

structure, expertise and people. Among the projects originating from outside mainstream universities, in 2001 the higher education division of publisher Harcourt announced the closure of its virtual university. In 2000 it had predicted 20,000 students enrolled in 100 subjects by 2005, but after spending \$10 million USD it enrolled only eight students in degree programs and 24 students altogether. Computer Learning Centres closed in early 2001 leaving 9,000 student in mid-course. Dow Jones University closed in early 2001. The Disney Institute, Disney's professional development subsidiary, was folded back into the parent company after losing \$1.1 billion in 2000 and generating revenues of only \$369 million USD (Ryan and Stedman, 2002, pp. 9–12).

Of the projects originated by non-profit universities, NYUOnline, Scottish Knowledge, Fathom, the UK E-University and Cardean University have collapsed. Western Governors and Universitas 21 Global are operating well below projected levels. Their future is uncertain.

In late 2001 New York University announced that NYUOnline would close as a separate division, its infrastructure would be sold and its operations partly folded into the School of Continuing and Professional Education. It had hoped to cover 40 per cent of operating costs by 2001 but at the end of 2000 there were only 166 students. In an effort to increase its attractiveness to corporate clients NYUOnline dropped semester-length subjects in favour of 8–12 hour self-paced modules but this move failed to attract more students. The University of Maryland University College folded its UMUCOnline operation into the distance education program and laid off staff, though it announced that it was still targeting 'the Asian market' and expected to enrol 70,000–80,000 students in 2001–2002. Temple University closed its distance education arm in 2001 (Ryan and Stedman, 2002, pp. 9–17).

In late April 2004 the UK e-University effectively collapsed. It was reported that 900 students had enrolled in four years, compared to the target of 5600 after one year. Total revenues from online enrolment were £4.5 million, well short of £62 million (Maslen, 2004).

Cardean University released its first online courses in 2000, with each semester-length MBA subject costing \$0.7 million USD to prepare. In 2002 the University claimed over a thousand students and signed a partnership with Thomson Learning with Thomson entering the UNext Board. However enrolments were slower than hoped; and Thomson Learning was committed to Universitas 21 Global. By 2001 UNext was expressing doubts about whether Cardean's prospective corporate clients were degree-oriented, and in September it laid off almost half of its staff (Ryan and Stedman, 2002, pp. 10–11). There were also accred-

TABLE 5
Fate of selected e-learning ventures

Venture	Investment capital and start-up date	Students and date	Outcome and date
NYUOnline	\$21.5 m (1998)	166 (2000)	closed 2001
Cardean University	\$100m* (1998)	1000+ (2002)	moribund
UKeU	£62 m (2000)	900 (2001–4)	closed 2004
Universitas21 Global	\$25m* (2001)	300–400 (2004)	struggling

*Start-up capital. Full investment n.a. All dollars are USD.

Sources: see text.

itation difficulties. In 2000 Cardean was accredited by the Accreditation Commission of the American Distance Education and Training Council, but this involved merely a description of courses offered, payment of a subscription fee and no inspection: in the USA Cardean gained full accreditation only in the state of Illinois where its partner UNext was based (Ryan and Stedman, 2002). By late 2001 it was becoming clear that the project had failed. In mid-2004 the Cardean website was still posted, but was moribund. The last entry under ‘Cardean News and Events’ was dated January 2003 (Cardean University, 2004).

In November 2000 Alan Gilbert estimated that the first Universitas 21 Global students would enrol before the end of 2001. The original business plan predicted 27,000 students by 2005. Gilbert expected 500,000 students at the University of Melbourne alone by 2011. However the first program, an MBA, did not begin teaching until August 2003. The initial offer of 500 places was expected to fill rapidly with enrolments rising to 5000 by 2004, but by mid 2004 student numbers were at 200–400, mostly from India and Singapore rather than mainland China. Cervini (2004b) indicates that Universitas 21 Global’s estimates were ‘rubbery’: ‘Universitas 21 Global chief executive Mukesh Aghi said “roughly 400” students had been accepted into the MBA and 1300 applications were being processed. Sources associated with member universities said enrolments were lower, less than 300’.

Student numbers were being boosted by a variety of means, such as discounts of up to 50 per cent for members and affiliates of the Association of Chartered Certified Accountants in Singapore, and scholarships for University of Melbourne staff enrolled in the online MBA. Thomson Learning staff made up 36 enrolments. As at Cardean University, most

teaching staff in the Universitas 21 Global e-MBA are not drawn from the member universities. Expectations had been revised downwards to 800 students by the end of 2004. It was hoped that 2000 enrolments, said to be the level need to secure profitability, would be achieved by the first half of 2006. A Master of Information Systems, originally expected to start in 2003, was now predicted for the end of 2004 (Maslen, 2004; Cervini, 2004a; Cervini, 2004b). The base consortium of universities has fluctuated. Toronto and Michigan dropped out of Universitas 21 after the deal with Thomson was signed, weakening the group in North America, though the University of Virginia has joined. Significantly, Peking University is a member of Universitas 21 but is not a member of Universitas 21 Global.¹

Why did the first wave of global e-learning fail?

Online higher education as such has not failed. As a mode of learning, it is growing all of the time, as part of face-to-face institutions and in mixed modes of delivery. Though much online education is a 'cut and paste' of earlier modes of teaching and learning, it does not have to be like this, and online education will continue to develop innovative pedagogical forms. As a solo mode, online education *can* sustain student support: several American for-profit providers, such as Apollo, DeVry and Capella University, have now demonstrated that it can be economically, administratively and commercially viable when produced at scale.

Nevertheless, the first wave of cross-border online education has failed. The stampede into e-learning was followed by a stampede out again in less than half a decade. Some online companies are still in denial, but serious investor money has vanished from the industry leaving universities to fund it themselves. The industry has neither met a fraction of the commercial expectations it generated nor met unmet demand in China and elsewhere. Only a handful of Asia-Pacific students are enrolled in foreign online degree programs. Given the resources absorbed and expectations created; given the hopes that nations and universities invested in commercial online education as the major new direction for higher education; the industry's failure is catastrophic. When one major investment fails because of erroneous assumptions we learn from its failure and something is gained. When the same mistake is repeated scores of times on a large scale because of market isomorphism it is a catastrophe. It is important to consider why e-learning failed and what

it means for higher education, cross-border education and online education. The following elements seem to be central:

1. Online education has an important role as a complement to face-to-face education inside and outside conventional programs. For most (though not all) students online education does not substitute for face-to-face programs. Regardless of their specific interest in ICTs most students want to interact with teachers and each other face-to-face. Exceptions are some categories of working students, some students with young children, and some in locations too remote to allow them to attend classes;
2. Higher education provided largely or completely online is different to face-to-face programs. Whether this is justified or not, the online degree does not enjoy the same status among students and labour markets. It is a serious error to market and quality assure online education as fundamentally 'equivalent' to face-to-face education;
3. For most students in the Asia-Pacific, an online degree accessed from home is a less attractive form of cross-border education than a degree acquired in the foreign nation, or in a branch campus of a foreign university in the student's own country;
4. The fuller pedagogical potentials of online technologies have yet to be explored, including the provision of culturally variable and locally sensitive modes of teaching, and curriculum contents (Ziguras 1999). For example, providing online programs solely in the English language considerably narrows the potential market, and English-language programs with low intensity teaching are unattractive in Asia;
5. High intensity online teaching is as costly as, or more costly than, face-to-face teaching (as UPOnline demonstrates). It is only commercially viable at high volume;
6. Most Asia-Pacific nations and all large Asia-Pacific nations lack the communications capacity for broadly dispersed online distance higher education, at least at present;
7. Commercial investors and university leaders failed to pursue a model of online education that might have been viable in Asia-Pacific: they offered low intensity teaching and/or mono-cultural and mono-linguistic curricula, and the online degree was not seen as value for money relative to other forms of cross-border education;
8. The lead times to establish viability in the global market for online distance education were longer than expected and medium-term revenues inadequate relative to establishment costs. This was exacerbated by (in many cases) unexpectedly high infrastructure and

product development costs, and by the misplaced tech-dreaming, the hyper-urgency of the start-ups and exaggerated expectations that were created.

The paper will now expand on some of these points.

Any foreign degree is a good foreign degree?

Like other forms of distance education, online education has a clear utility for categories of students unable to travel regularly to a campus or short of time; for some older students and for people who want short courses. However, unmet demand for higher education in the Asia-Pacific is largely for first-degree undergraduate education (Olsen, 2002, p. 12) for students in the major cities. While young students are more web-savvy than older students, purely or largely online modes of higher education have limited attraction for them. These students are aware of the distinctions between largely online degrees and face-to-face degrees. They know online education is a different learning experience and has different potentials in institutional settings and networking; and that degrees that are largely or purely online do not command equivalent status in the eyes of students, academics and the community. Whether the status differential is educationally valid or not does not matter. It is there to be reckoned with. For example, as the Asian Development Bank remarks:

Whereas a number of studies suggest that the amount that students learn in distance education courses matches classroom education, the cost-effectiveness of such education may be less than classroom education if employers put little value on distance learning degrees (ADB, 2003).

The existence of unmet domestic demand for higher education in Asia-Pacific nations does not in itself render cross-border e-learning good value for money. Potential students with resources to access e-learning often have other ways of obtaining a foreign education. Many students living in Singapore, Hong Kong, Malaysia and parts of China, and some located in Korea, Japan and other nations, have three options when contemplating a foreign education in English

- They can enrol in education provided on the soil of an English-language nation. This offers a degree from a reputable university, and the benefits of learning English inside and outside the classroom through immersion in the English-speaking setting. Studying abroad carries risks for the family but offers the potential for maturation and

cross-cultural experiences that help the student to develop global competences. This package of benefits makes the high investment worthwhile for many families.

- They can attend a branch campus of a foreign university located in the student's own nation. This offers a reputable degree, and education in an English-language classroom. It does not offer the fuller language learning experience of immersion in the English-language environment, or the benefits of networking in the main campuses of the foreign university. However, it is cheaper and safer than travelling abroad.
- They can acquire an online degree from home or at a study centre within their own nation. Compared to the first two modes, the online option offers a less reputable degree, limited networking potentials and a limited language learning experience. An on-line degree in English carries with it the difficulties of learning in a second language without the stimulus of an intensive linguistic environment: there is little scope to develop the conversational skills all-important in global competence. On the positive side, it is cheaper and safer than travelling abroad. But there are limits to the capacity of online providers to lower prices given that this will reduce the capacity for intensive teaching and locally-sensitive curricula (unless the provider is operating at a high volume that none have reached). On balance, the online degree is relatively unattractive, unless the student takes the attitude that 'any foreign education is a good foreign education'.

Not all Asia-Pacific students have access to branch campuses of foreign providers. These tend to be concentrated in nations, and regions/cities within nations, with the greatest propensity to import cross-border education, such as Shanghai and Beijing regions in China. Thus on one hand the potential demand for cross-border distance education is greater in rural areas where the intermediate option of the foreign branch campus is unavailable and education in the foreign nation is too expensive and/or risky; but on the other hand, rural areas of China, India, Indonesia, Pakistan and Thailand have much less ICT capacity.

In the global higher education market that the e-learning industry tried to create and individual companies tried to dominate, the industry was handicapped from the beginning. Failure to understand its position, work around it and invest for the long-term was fatal. Further, the online industry and the universities providing online education made the strategic error of trying to cut corners in the journey to industry viability, by marketing online degrees as 'equivalent' to face-to-face degrees,

and developing quality assurance systems to 'assure' everyone that this was so. It palatably was not so, everyone knew it was not so, and this fact could not be transparently wished away by marketing or QA. It would have been better to concentrate attention on the distinctive and additional qualities of online degrees, building a solid constituency for the new mode. Claiming equivalence with face-to-face degrees was a strategy premised on market gullibility. But the market was not gullible.

Capacity for online education in Asia-Pacific

The Asia-Pacific nations exhibit a highly varied capacity to support networked educational technologies. These variations are more extreme than variations in face-to-face educational provision and participation. While online education might appear to offer the greatest potential benefits to developing nations, the developing world has poor telecommunications infrastructure, bandwidth, cable linkages and satellite receiver distribution, and insufficient public and private funds to invest in these technologies. For some, the way through lies in learning centres combined with satellite networking, Internet and computer facilities (the African Virtual University uses this structure of provision), but such centres remain affected by capacity problems; and the full flexibility and attractiveness of online education is accessed only via personal computers with individualised Internet. In most Asia-Pacific nations ICT-capacity cannot sustain broadly distributed online education. On the other hand, additional public or private investments in telecommunications, satellite dishes, cable roll-out, servers and band-width could change this situation relatively quickly.

In the Asia-Pacific eight nations sustain a relatively high level of personal computer and Internet usage with more than 300 Internet users per 1,000 population: Singapore, Hong Kong China, Taiwan, Korea, Japan, Malaysia, Australia and New Zealand. In Hong Kong, Singapore, Taiwan and Malaysia networking capacity is combined with significant unmet demand and high volume cross-border education. Hong Kong and Singapore are globalised telephone users, indicating openness to cross-border flows: in both cases online distance education plays a significant role. Hong Kong, Singapore and Korea also have a strong broadband capacity essential for more fully exploiting the educational potential of ICTs.

Elsewhere where unmet demand is or will be a major factor, capacity is much weaker. Thailand and some island nations are ahead of the

rest but well below the top group. China, Thailand, the Philippines, Fiji and the Maldives are the best provided with telephones but broadband capacity is mostly weak (see Table 6). ICT capacity is undeveloped in most of South Asia, Myanmar, and in Indochina apart from Vietnam. In Indonesia computing and Internet use remain limited, though Internet numbers doubled between 2001 and 2002 (Table 7). In Pakistan,

TABLE 6
ICT networking potential, Asia-Pacific nations, 2001/2002

Nation	number of people	fixed lines and mobile phones	outgoing cross-border phone calls	broad-band Internet access	personal computers	Internet users		
	2003	2002	2001	2002	2002	2002	2001	2000
	millions	per 1,000 people	minutes per subscriber	rating 1-7 (7 is high)	per 1,000 people	millions	per 1,000 people	= 100
<i>East Asia</i>								
China	1,288.4	328	7	2.9	28	59.100	46	175
Hong Kong China	6.8	1,507	932	5.3	422	2,900	430	112
Japan	127.1	1,195	36	3.3	382	57.200	449	117
Korea	47.9	1,168	45	5.9	559	26.300	552	108
Taiwan	*22.5	-	-	-	**223	**11.600	**518	-
<i>Southeast Asia</i>								
Cambodia	13.4	30	320	-	2	0.030	2	300
Indonesia	214.5	92	44	3.4	12	8.000	38	200
Laos	5.7	21	138	-	3	0.015	3	150
Malaysia	24.8	567	146	3.4	147	7.800	320	124
Myanmar	49.4	8	34	-	5	0.025	1	250
Philippines	81.5	233	49	3.6	28	3.500	44	175
Singapore	4.3	1,258	961	5.8	622	2.100	504	124
Thailand	62.0	366	52	3.9	40	4.800	57	137
Timor Leste (East)	0.8	-	-	-	-	-	-	-
Vietnam	81.3	72	18	2.7	10	1.500	18	150
<i>South Asia</i>								
Afghanistan	28.8	2	-	-	-	0.001	0	-
Bangladesh	138.1	13	77	2.2	3	0.200	2	110
Bhutan	0.6	28	202	-	15	0.010	1	200
India	1,064.4	52	14	3.2	7	16.600	16	237
Maldives	0.3	251	258	-	71	0.015	50	150
Nepal	24.7	15	109	-	4	0.080	3	133
Pakistan	148.4	34	53	-	**4	1.500	10	300
Sri Lanka	19.2	96	58	3.0	13	0.200	11	133
<i>Pacific</i>								
Australia	-	1,178	224	5.0	565	9.500	482	132
Cook Islands	0.8	-	-	-	-	-	-	-
Fiji	0.1	229	180	-	49	0.050	60	333
Kiribati	0.1	57	178	-	11	0.002	21	100
Marshall Islands	0.1	87	243	-	53	0.001	24	116
Micronesia	-	-	252	-	-	0.006	50	120
Nauru	-	-	-	-	-	-	-	-
New Zealand	0.2	1,070	521	4.9	414	1.900	484	106
Papua New Guinea	0.5	15	402	-	59	0.075	14	150
Samoa	0.1	72	1,200	-	7	0.004	23	133
Solomon Islands	-	17	799	-	41	0.002	5	110
Tonga	0.2	147	284	-	20	0.003	29	104
Tuvalu	-	-	-	-	-	-	-	-
Vanuatu	0.2	57	416	-	15	0.007	34	127

* indicates 2002 data. ** indicates 2001 data. - indicates data not available.

Source: Asian Development Bank (2003), World Bank data and statistics (2003) <http://www.worldbank.org/data/countrydata/ictglance.htm>.

India and Bangladesh the distribution of ICT capacity is again very poor. Despite the strength of its indigenous software and ICT services industries, in 2002 India had 7 personal computers and 16 Internet users per 1,000 people; Pakistan had only 10 Internet users per 1,000. Given the demographics of South Asia, this still constitutes sizeable electronic networks that are potential commercial prizes for the e-learning industry. There were 16.6 million Internet users in India in 2002, an increase of 137 per cent from 2001.

In China the number of Internet users is at less than 5 per cent of the population. Nevertheless the telephone network is more than half as extensive as that of Malaysia, and Internet use is growing rapidly, from an estimated 33.7 million in 2001 to 59.1 million in 2002 (World Bank, 2004). The Ministry of Education has set out to establish a comprehensive lifelong learning system by 2010, with ICT-provision as the backbone of that system. Steps to achieve this include the roll-out of fibre-optic wiring systems, in conjunction with satellite technologies to carry data the 'last mile', and later, broadband technologies; the spread of the China Education and Research Computer Network linking universities and other education institutions; training of staff and students in ICT use; and pilot courses in distance learning and the growth of on-line courses in universities (OECD, 2002b, pp. 792–795). Given this policy framework, together with market factors driving the rapid extension of communications technologies, the potential for online distance education in China can be expected to expand very considerably. If so, how much an augmented capacity is used for cross-border education will be determined by other factors.

TABLE 7
Aspects of education and Internet capacity in China, India and Indonesia

nation	number of people 2003	gross tertiary education enrolment ratio 2001	personal computers 2002	Internet users 2001	Internet users 2002		
	millions	%	per 1,000 people	millions	millions	per 1,000 people	2001 = 100
<i>East Asia</i>							
China	1,288.4	*12.7	28	33.7	59.1	46	175
India	1,064.4	*10.6	7	7.0	16.6	16	237
Indonesia	214.5	15.1	12	4.0	8.0	38	200

* = 2000 data.

Source: OECD 2002a; OECD 2003; World Bank 2004.

The language factor

Inadequate capacity can be overcome over time with large-scale investment; though only in the high growth economies are there good prospects for improvement: in less developed nations the only solution is public investment. The problem of language use is more difficult to solve. Institutions in the main English-language nations take a mono-cultural approach to cross-border higher education. Cynically, some universities and nations market programs in a variety of languages but offer only one language of instruction. It is rightly assumed that most cross-border students enrolled in face-to-face programs want to study in English, but the point is that they have no choice; and assumptions about preference for English-medium learning may hold less strongly for cross-border online students who remain at home.

Notwithstanding tendencies to global homogenisation (Held et al., 1999, pp. 345–346), the Asia-Pacific is linguistically and culturally diverse and will remain so for the foreseeable future. In addition to English there are 15 different languages that are each spoken by 60 million people or more, including Putonghua (Mandarin) spoken by 1,000 million people, Hindi and Urdu by 900 million, Bengali by 250 million, and Indonesian/Malay by 160 million (see Table 8). These language groups will not disappear. Some, along with Arabic and Spanish, may join English as global languages. In the case of Putonghua it is hard to see this not happening. Other Asia-Pacific languages with 30 million speakers or more are the national languages of Filipino/Tagalog in the Philippines (45m), Thai in Thailand (45m), Burmese (33m) and Lao and Isan in Laos, also spoken in Thailand (30m). Other national languages include Nepal (17m) and Sri Lanka (14m). Sub-national regional languages of size are Bhojpuri and Maithili (60m), Gujurati (45m), Kannadu (45m), Malayalam (35m) and Oriya (30m) in India; Min-nan (55m), Xiang (48m) and Hakku (35m) in China and Taiwan; and Sunda in Indonesia (30m) (Linguasphere Observatory, 2004).

Future higher education in the Asia-Pacific will be conducted in the major languages of use, both English and many other languages. English is in increasing use as a language of daily life and education in some nations, including Malaysia, Singapore, the Philippines and parts of South Asia. But English is not a universal tertiary educational language that subsumes all national languages to it. Unless online materials are employed on a large scale in national languages such as Putonghua (Mandarin), Hindi/Urdu and Indonesian/Malayan, the potential market

TABLE 8
Major languages used in the Asia-Pacific nations, 1999–2000

language	main nations of use	number of speakers world-wide million
English	Australia, New Zealand and widespread	1,000
Putonghua ('Mandarin')	China, Taiwan and migration	1,000
Hindi and Urdu	India, Pakistan, Nepal and migration	900
Bengali (aka Bangla)	Bangladesh, India <i>regional</i> and migration	250
Malay/Indonesian	Indonesia, Malaysia, Singapore	160
Nihongo (Japanese)	Japan and migration	130
Punjabi	Pakistan and India <i>regional</i> and migration	85
Wu	China <i>regional</i>	85
Jawa	Indonesia <i>regional</i> (Java)	80
Marathi	India <i>regional</i>	80
Hankukmal (Korean)	Korea and migration	75
Viet (Vietnamese)	Vietnam and migration	75
Telugu	India <i>regional</i> , Malaysia	70
Yue (Cantonese)	China <i>regional</i> incl. Hong Kong and migration	70
Tamil	India and Sri Lanka <i>regional</i> and migration	65

aka = also known as.

Source: Linguasphere Observatory – <http://www.linguasphere.org/>.

demand for online cannot be fully tested. If American and other English-language providers are unwilling to develop online learning platforms and curriculum materials in Asian languages, this provides a market opening for providers from other Internet-strong nations such as Korea, Japan or Singapore. Alternatively, Asia-Pacific governments might themselves invest in on-line curricula as a common good, with plural languages, working cooperatively through global agencies and the large national distance learning providers located in Asia-Pacific nations – such as China TV University, Universitas Terbuka in Indonesia, Indira Gandhi National Open University in India, Sukhothai Thammathirat Open University in Thailand and the Korean National Open University – while drawing on the expertise of the global industry; with the latter playing a more subordinate role than hitherto envisaged.

Implications and conclusions

Implications for theory: truth in marketing; or, the material power of discourse

In its first wave the global online education industry was both made and destroyed by its own marketing, like the boom-bust cycle of temporary media-created celebrities. It is now apparent that disappointment and failure were built in from the start, in the very discourse about the golden future of global e-learning that was created. The discourse was turned into truth in the medium of marketing. In the construction of this truth there was no concern about evidence for student demand, or the different cultural and economic contexts in the Asia-Pacific. But because the industry was nascent claims made in marketing could not be checked against reality. Every industry player talked up the e-learning future as part of talking up their own claims for equity capital or university/government support. The e-future narrative was recycled in successive start-ups and brokers reports and vice-chancellors' speeches and websites and marketing campaigns, until the discursive accumulation became so massive that the core assumptions were an unquestionable mantra effacing all doubts. Hyper-optimism and the frantic struggle for first mover advantage excluded caution and the long view and negated the potential for constructive criticism and alternative visions.

This point is of theoretical as well as practical interest. Here we can observe the materiality of discourse, the cultural power of words and images when joined to economic interest to shape behaviours in higher education and government, move billions of dollars in investment, and frame the horizons of public policy on the future of higher education.

But the truths created in marketing were not powerful enough to overcome the practical limits facing the e-learning industry; and they obscured those realities from view: too many illusions were created and interpolated into practice; too many obstacles were papered over; too many contradictions were concealed within. Within the discourse of global online education, various observations and teleologies became conflated: the observation that young people were excited by the Internet became an assumption these same young people would leap into e-learning mode; the observation that online education was more flexible for certain categories of students became the assumption that online degrees were equally attractive; the observation that Internet networks could be expanded at a diminishing unit cost became the assumption that online education was generally cheaper than 'bricks-and-mortar'

institutions; the observation that digitalisation was sweeping the services sector of the economy became the assumption that digitally-based learning was intrinsically superior and would make university and nation more competitive. Worse, these observations were readily joined into the more extreme version of the e-learning narrative, much encouraged from within the ICT sector and so widely dispersed in speeches and articles that it is impossible to source, that traditional site-based higher education would become obsolete and largely replaced by online forms. Thus the discourse about online education slipped freely between e-learning as adjunct to face-to-face education; e-learning as cheaper substitute; and e-learning as superior, as an absolute substitute for face-to-face education. In this discursive environment it was inevitable that the educational and economic potential of online education would be distorted. Then once having accumulated its discourse on a global scale, the industry was rendered strangely inflexible. There was no space for the kind of collective reflexivity that would have enabled e-learning to change course. It was too late to recall the discourse. The story about the Brave New Online University World was out there, everywhere; and like an e-mail that the sender later regrets, nothing could be done.

Implications for policy making: markets 0, expert judgement 0

The fiasco of government investments in e-learning is a salutary reminder that policy making advice conditioned by marketing 'spin' is inferior to policy making advice conditioned by research and grounded in expert judgement. The principal arguments for allowing the industry to lead policy are that a bureaucratic perspective tends to be both too cautious and too inclined to omnipotence; and that a market-led approach facilitates innovation. There is something in all of three arguments. But where the various governments went wrong was in methodology, in allowing their own perspectives and responsibilities to be subordinated to the industry's narrative scenario of the e-learning future.

More generally, the failure of the online industry raises doubts about the extent to which governments should allow competitive market forces and industry-determined investments to shape mass higher education and cross-border relations in education. There is no guarantee that the invisible hand will generate an optimal pattern of infrastructure and participation. In extreme cases such as this, market-driven investment over-determined by a boom-bust cycle can be associated with a massive outlay on infrastructure followed by no substantial increase in the capacity to provide higher education, and the eventual liquidation of most of

the temporarily-acquired expertise, leaving very little behind. Government advocated and partly-funded failure on this scale must prompt serious policy questions.

Implications for online cross-border education: cultural mixing

The global potential of networked distance delivery is exciting, but not in the terms of the industry narrative of 1998–2002 that is now petering out. Much online development has and will take place alongside and as part of the face-to-face cross-border education, either by attaching e-facilities to a largely face-to-face provision or by supplementing a distance program with face-to-face contact with teachers, program administrators and other students (Davis et al., 2000). Mixed mode approaches tend to blur the question of the standing of the online implicated degrees; better integrate foreign providers with local partners and contexts, and enable flexibility in the face of variable technological capacity and investment.

There is a harder question: that of the future of cross-border higher education that is primarily or exclusively online. The foregoing analysis suggests that if private and public producers are to secure the high volumes required for economic viability, and compensate for the status of the online degree, a high quality rather than low quality approach will be essential. This suggests focuses on interactive teaching, and variations in pedagogy and curricula. That is the lesson from the success of University of Phoenix Online, which identified a real gap in existing provision, applied a teaching-intensive model to it, and designed a culturally targeted product. It is more difficult to design culturally appropriate online education for the range of countries of the Asia-Pacific than for vocationally-focused populations in the USA. Nevertheless, to develop the fuller potential of cross-border online education in the Asia-Pacific region, curricula and languages of learning will need to be customised for each specific national and often sub-national student population. The key is cultural respect, expressed in long-term partnerships with nationally-based agencies and local/regional institutions, that are conducted on the basis of equality and reciprocity.

The dream that must be abandoned is the gleam in the eyes of Wall Street brokers of 1999: the vision of an Anglo-American curriculum beaming in Star Trek fashion to every corner of China, with prestigious professors on the website and the minimum of interactive servicing, colonising tens of millions of Sinophobe minds and taking in a tidy unit profit. Higher education is not an entirely standardisable product, a

Starbucks or McDonalds that can be rolled out everywhere just like that. It is more place-bound and context sensitive than the first wave global imaginings realised. The answer to the question 'Who will educate China?' is 'China'. Purely foreign ventures have a relatively minor role. Cross-border electronic technologies have a major potential in the Asia-Pacific. These technologies open doorways to everywhere in the world, access a wealth of data and scholarship, facilitate new data bases and create flexible communities. Foreign providers can markedly contribute to the roll out of ICTs and online learning techniques. But foreign providers will largely work in conjunction with national and local systems, firms and institutions, not *sui generis*. These cross-border partnerships can guide the cultural-linguistic plurality and subtlety that could become a main strength of online distance education in the next wave. Leaving Asia-Pacific nations 'hanging on the Anglophone' is to decisively limit the cross-border possibilities.

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Note

1. See the respective linked websites of Universitas 21 at <http://universitas21.com> [27.07.04] and Universitas 21 Global at <http://www.u21.global.com> [27.07.04].

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