

## **Exploring Marketing and E-Readiness through Digital Country Studies**

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### **Abstract**

'E-Readiness' refers to a country's ability to generate economic growth through development of technology-rich and knowledge-based industries in a world dominated by advancing Information and Communications Technology (ICT). The "Digital Country Study" teaching methodology was developed for students to assess e-readiness for a specific country and implications for international marketing strategy and implementation. Qualitative research on a pool of Digital Country Studies completed in 2004-2006 highlights a range of concepts associated with e-readiness useful for redefining international and global marketing strategies and point toward future research segmented by developed and emerging countries and e-readiness concepts.

### **The Age of Information and Communications Technology (ICT) and "E-Readiness"**

The Age of Information and Communications Technology (ICT) dates back to the development of the Intel microprocessor in 1971 (Freeman & Louca, 2002, p.141; Perez, 2002, p.11; Zygmunt, 2003, pp.110-119). New industries and supporting technologies now are developed to a level where this platform drives global economic growth and industry leadership. Understanding elements that contribute to participation in this environment is vital to countries and companies developing and using associated new technologies to gain marketing and ultimately competitive leadership.

Conceptualisation and application of a set of measurements to assess such participation and positioning was developed by different researchers and consulting groups including:

- Digital Marketing Index (Bishop, 1999)
- E-Readiness Framework (Choucri, Maugis, Madnick & Siegel, 2003)
- Economist E-Readiness Rankings (Economist Intelligence Unit, 2006)

The Economist E-Readiness Rankings have been published every year since 2000 and are based around e-readiness defined as "E-readiness is the "state of play" of a country's information and communications technology (ICT) infrastructure and the ability of its consumers, businesses and governments to use ICT to their benefit." (Economist Intelligence Unit, 2006, p.1).

The Economist continues to develop, refine and publish E-Readiness Rankings because "Economic progress is increasingly dependent on innovations in the use of the technology", says George Pohle, Global Leader, IBM Institute for Business Value. "In economies reaching ubiquitous adoption of the internet and communications technologies, future competitiveness is driven by the creation of new services that exploit the infrastructure. For developing nations, sustained investment in connectivity is still necessary. But policymakers must also focus on new educational approaches that will make their people more sought after in a tightly interconnected world". (Economist Intelligence Unit, 2006, p.1).

E-Business Rankings' dimensions have changed over the years since 2000 to reflect rapid changes in faster broadband Internet access, mobile telecommunications, deployment of wireless services, advancing definitions of e-literacy, and policy developments in developing "e-business", "e-government" and more recently "e-society". New developments include focus on collaborative software applications and platforms to encourage much flatter "networked" based business development - similar to Friedman's definition of "globalisation 3.0" (Friedman 2006).

Partly as a response to the early argument that the web would provide fewer barriers to internationalisation for firms and give smaller firms easier access (Loane and Bell, 2002); Pattinson, in 2003, created the Digital Country Study approach where students undertaking Global E-Business Marketing at the University of Technology, Sydney could complete a project analysing a country for digital or e-readiness dimensions and discuss implications for international marketing strategy and implementation. The Digital Country Study approach is comparable to the Economist E-Readiness Rankings but there are several extra areas of analysed. Table 1 presents a comparison between the Economist E-Readiness Rankings and the Digital Country Study Approach.

<u>Economist E-Readiness Rankings</u>	<u>Digital Country Study Dimensions</u>
<ol style="list-style-type: none"> <li>1. Connectivity and technology infrastructure. Weight in overall score: 25%</li> <li>2. Business environment. Weight in overall score: 20%</li> <li>3. Consumer and business adoption. Weight in overall score: 20%</li> <li>4. Legal and policy environment. Weight in overall score: 15%</li> <li>5. Social and cultural environment. Weight in overall score: 15%</li> <li>6. Supporting e-Services. Weight in overall score: 5%</li> </ol> <p>(Economist Intelligence Unit, 2006)</p>	<ul style="list-style-type: none"> <li>• Economic</li> <li>• Political</li> <li>• Converged Digital Technology Infrastructure</li> <li>• Capital Infrastructure</li> <li>• Public Policy Infrastructure</li> <li>• Key E-Business Companies – Infrastructure Developers</li> <li>• Key E-Business Companies – Infrastructure Users</li> <li>• Specific Variations In International Marketing Programmes Using E-Business Technology</li> <li>• Specific E-Business Public Policy or Private Reports or Plans</li> <li>• Emerging And Future Information Infrastructure Initiatives</li> <li>• Key Issues and Recommendations For Current and Future E-Business Marketing Initiatives</li> </ul> <p>(UTS Digital Country Study Checklist, 2005)</p>

**Table 1: E-Readiness Rankings and Digital Country Study Dimensions**

The six broad dimensions used in the E-Readiness ratings (Economist Intelligence Unit, 2006) are created from both qualitative and quantitative items; and these dimensions are supported by the literature, for instance Oxley and Yeung (2000) argued that the rule of law, the transactional integrity of online business and the availability of infrastructure are all factors that are included in the E-Readiness ratings. One criticism of the ratings is the relative weighting of the broad dimensions; these were weighted relative to their assumed importance

rather than with any concrete research base for their calculation. Because the digital country studies have been structured based on the E-Readiness report we would expect to find some commonality between the factors the reports show are important and this report; however, this exploratory study is primarily interested (a) establishing that the digital e-readiness dimensions are the major factors, and (b) establishing what, if any, interactions there are between the factors highlighted.

This paper reports on an exploratory research project that qualitatively explores e-readiness concepts and issues in a range of digital country studies completed over 2004 and 2005.

### Digital Country Study Research Project

The Digital Country Study approach has run annually from 2004-2006 within the Global E-Business Marketing postgraduate subject at the University of Technology, Sydney. Low refined the Digital Country Study approach for International Marketing postgraduate subjects at the University of Western Sydney run annually from 2005-2006. Pattinson and Low collected Digital Country Studies from their classes of 2004, 2005 and 2006 and combined them into a research project to explore key concepts and issues. Electronic copies of 90 Digital Country Study Projects (with 59 completed at University of Technology, Sydney in 2004 and 2005, and 31 completed at University of Western Sydney in 2006), were placed into the Leximancer application (Leximancer, 2006) and analysed for key themes and concepts. Figure 1 highlights a set of key concepts and themes.

Leximancer identifies the concepts based on key words identified from a word frequency analysis, and this forms the starting point for the concepts. The software then learns a concept by identifying the words that occur around these key words and builds the concept based on key and associated words. Themes are groups of concepts (both large ie occurs often and small). Concepts are identified on figure 1 by points (and are named) while themes are the series of larger circles.

Iterations = 1000

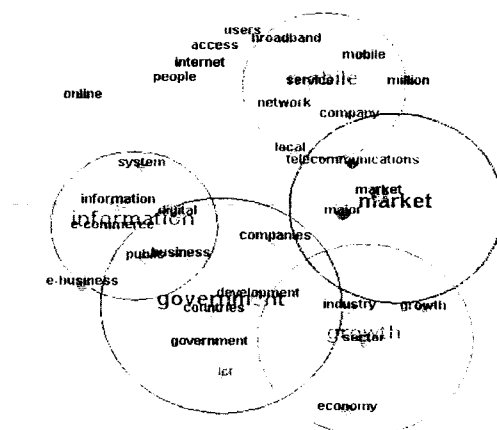


Figure 1: Digital Country Study Research Project - Key Themes and Concepts

About 30 concepts and 9 themes were presented in Figure 1. These concepts and themes were referenced back to the Digital Country Study Checklist, and, as was expected, key sections within the Checklist were shown as themes within the Leximancer analysis while concepts related to issues that were commonly discussed within the key sections. There was commonality between Leximancer theme output and the Digital Country Study Checklist, these was also commonality between the Leximancer theme output and the digital e-readiness report rankings.

Clusters of concepts were heavily weighted toward technology, government and network themes. There seems to be a significant emphasis on government influence being associated with ICT development, e-business development and economic growth. This appears to contradict the digital e-readiness ranking report weighting of 15% for legal and policy environment which proposes that "a country's level of e-readiness more often than not mirrors its overall economic development" (Economist Intelligence Unit, 2006, p.2). Other authors, such as Javalgi et al, 2005, put policy makers more prominently in the role of leading and directing e-commerce initiatives within their countries.

There also appears to be a distinct cluster associated with network development and internet access and newer mobile and broadband access. These clusters add weight to perspectives that governments are vital to developing policies and conditions for active participation in an ICT age economy, which was supported by our analysis in that we found these concepts were closely connected with the concepts associated with government. Indeed much of the associated literature discusses access in terms of infrastructure and access to computers (Palacios, 2002), emerging and developed economies (Cateora and Graham, 2002) and education of users (Javalgi et al, 2005). This literature cites government, and in particular its ability to create strategic policy, as one important factor in solving these sorts of access issues.

People's ability to participate in an ICT age economy seems to also be associated with Internet access through broadband and possibly mobile networks and services. Data is beginning to emerge in the literature that examines these factors. What studies appear to show so far is that developing countries may be catching up on digital access to developed countries at a faster rate than with fixed line broadband access (Baez, 2004; Pertierra, et al, 2002).

Table 2 (below) illustrates the most commonly occurring concepts from the analysis of the country study reports. The absolute count in the table is the number of times the concept occurs in the data while the relative count is the size of the concept relative to the largest concept (internet). Thus we see the smallest concept listed (company, 509 times) is 20.2% of the size of the largest concept (internet, 2512 times).

### **Discussion and Further Research**

The exploratory analysis presented in this paper represents a high-level "first pass" that highlighted the key concepts and themes that were contained in the extant literature. The analysis was presented in brief form only and shows that while the broad dimensions of connectivity, business environment, adoption, legal and policy, social and supporting services that are used in the digital e-readiness ratings appear as concepts and themes. The analysis shows that these issues are more inter-related than is suggested by a reading of either the

academic or practitioner literature. This connectivity of the concepts is a contribution of this study and warrants further study.

<u>Concept</u>	<u>Absolute Count</u>	<u>Relative Count</u>
<u>internet</u>	2512	100%
<u>government</u>	1720	68.4%
<u>market</u>	1403	55.8%
<u>technology</u>	1301	51.7%
<u>infrastructure</u>	1298	51.6%
<u>business</u>	1296	51.5%
<u>information</u>	1233	49%
<u>companies</u>	1208	48%
<u>access</u>	1058	42.1%
<u>development</u>	1027	40.8%
<u>online</u>	986	39.2%
<u>mobile</u>	871	34.6%
<u>growth</u>	855	34%
<u>digital</u>	825	32.8%
<u>service</u>	823	32.7%
<u>countries</u>	794	31.6%
<u>economy</u>	738	29.3%
<u>available</u>	733	29.1%
<u>industry</u>	725	28.8%
<u>million</u>	702	27.9%
<u>network</u>	697	27.7%
<u>users</u>	696	27.7%
<u>people</u>	694	27.6%
<u>e-business</u>	694	27.6%
<u>broadband</u>	690	27.4%
<u>public</u>	653	25.9%
<u>e-commerce</u>	633	25.1%
<u>years</u>	611	24.3%
<u>economic</u>	596	23.7%
<u>system</u>	594	23.6%
<u>let</u>	577	22.9%
<u>company</u>	509	20.2%

**Table 2: Digital Country Study Research Project: Ranked Concepts**

There is an opportunity to further explore associated concepts to stimulate further discussion on e-readiness concepts and issues. Each theme and concept will be analysed further to unearth further associations and insights on e-readiness.

The authors believe that the overall Digital Country Study dataset could be further segmented into geographic regions so as to identify differences between developed and emerging countries. We propose that this categorisation should, in the first instance, align with the geographic categories contained within the e-readiness of report so as to aid in comparative analysis. These categories are: North America, Western Europe, Asia-Pacific, Central and Eastern Europe, Latin America and Middle East and Africa.

Further research will be conducted on the total dataset based on specific technologies such as emerging mobile services, new collaborative software applications and on specific ITC Industry segmentation. Additional Digital Country Studies from the University of Technology, Sydney Global E-Business Marketing class to be run in the 2006 Spring Semester may be added to the Project dataset. Updated and further analysis will be presented and discussed at the ANZMAC 2006 Conference. This is the future direction of our research.

## References

- Baez, G., 2004). Identifying the main areas of growth in Latin America's Communications Market, Available from <http://www.abranet.org.br/brazilbreakfast04.pdf>, accessed 27 Feb 2006
- Bishop, B., 1999. *Global Marketing For The Digital Age*, NTC Business Books, Chicago, 115-135
- Cateora, P.R., Graham, G.R., 2002. *International Marketing*, 11th ed, New York, McGraw-Hill
- Choucri, N., Maugis, V., Madnick, S., Siegel M., 2003. *Global E-Business – for What?*, Report of the Group for Globalization of e-Business, Center for eBusiness at MIT, Sloan School of Management, Boston, Paper 177.
- Economist Intelligence Unit, in co-operation with The IBM Institute for Business Value, 2006, *The 2006 e-readiness rankings: A white paper from the Economist Intelligence Unit*, Economist Intelligence Unit, London
- Freeman, C., Louca, F., 2002. *As Time Goes By: From the Industrial Revolution to the Information Revolution*, Oxford University Press, Oxford
- Friedman, T.L., 2006. *The World Is Flat [Updated and Expanded]: A Brief History of the Twenty-first Century*, Penguin Books, London
- Javalgi, R.G., Radulovich, L.P., Pendleton, G., Scherer, R.F., 2005. Sustainable competitive advantage of internet firms: A strategic framework and implications for global firms, *International Marketing Review*, 22 (6), 658-672
- Leximancer, 2006. *Leximancer: Leximancer V2.23*, software downloaded from <http://www.leximancer.com> on 19 June 2006.
- Loane, S., and Bell, J., 2002. A Cross-National comparison of the internationalisation trajectories of internet start-ups, *Irish Journal of Management*, 23(2), 53-74.
- Oxley, J., Yeung, Y., 2000. E-commerce readiness - institutional environment and international competitiveness, *Proceedings of the eCommerce and Global Business Forum*, 17-19 May, Santa Cruz, CA: Accenture Institute for Strategic Change.
- Palacios, I., 2002. Transforming the digital divide into a digital opportunity, Workshop presented at APEC Workshop on e-Business and Supply Chain Management, Bangkok Thailand, Available at [www.ecommerce.or.th/APEC/eei/presentation/day3/peru.ppt](http://www.ecommerce.or.th/APEC/eei/presentation/day3/peru.ppt), accessed 1 March 2006.
- Perez, Carlotta, 2002. *Technological Revolutions and Financial Capital*, Edward Elgar, Cheltenham UK
- Pertierra, R., Ugarte, E.F., Pingol, A., 2002. *Txt-ing Selves: Cell phones and Philippine Modernity*, Available at [www.Finlandembassy.ph/texting6.htm](http://www.Finlandembassy.ph/texting6.htm), accessed 1 March 2006.

UTS Digital Country Study Checklist, 2005, in Pattinson, H. M., 2005, 24724 Global E-Business Marketing Subject Outline, Unpublished: University of Technology, Sydney

Zygmunt, J., 2003. Microchip: An Idea, Its Genesis, and the Revolution it Created, Perseus Publishing, Cambridge Ma.