

BUILDING E-GOVERNMENT IN EAST AND SOUTHEAST ASIA: REGIONAL RHETORIC AND NATIONAL (IN)ACTION

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SUMMARY

Among many regional policy initiatives taken by states in East and Southeast Asia in the wake of the 1997 financial crisis, one central project launched by the Association of Southeast Asian Nations (ASEAN), and taken up by its dialogue partners in East Asia, was promotion of information and communication technology. While part of ASEAN's 1999–2004 action plan focused on services for business, another part sought to put public sectors online, and to promote electronic government, or e-government. Taking the 16 states and quasi-states of East and Southeast Asia, this article evaluates progress at the action plan's mid-point in January 2002. It begins by defining e-government and reviewing three academic literatures on the information age, developmental states, and Confucian societies. It then describes the major policy initiatives taken by ASEAN and its partner states, and surveys implementation progress through an analysis of government homepages and sites. Its main finding is that e-government activity in East and Southeast Asia is highly diverse, reflecting national strengths and weaknesses rather than regional capacity for policy change. The article argues for increased attention to national implementation strategies. Copyright © 2002 John Wiley & Sons, Ltd.

INTRODUCTION

Among many regional policy initiatives launched by states in East and Southeast Asia in the wake of the 1997 financial crisis, one key project was promotion of information and communication technology (ICT). While much of the resultant political activity focused on building ICT infrastructure for business, a significant policy strand sought to develop ICT capacity within states, and to make a decisive shift towards electronic government, or e-government. Led by the ten-member Association of Southeast Asian Nations (ASEAN), states in the region made ICT progress a key priority in 'bridging the development gap' (ASEAN, 2001, para 17). Largely on the initiative of Japan, they also extended the project to the 'plus three' states of China, Japan and South Korea (Japan Ministry of Foreign Affairs, 2000). Outside regional structures, but still within the region, the quasi-states of Hong Kong and Taiwan equally sought to become leading e-government players (Hong Kong Information and Technology Broadcasting Bureau, 2002). In the five years after 1997, only the hermit state of North Korea did not join the regional drive to put public sectors online.

This article evaluates e-government progress in East and Southeast Asia in January 2002, halfway through the period covered by a 1999–2004 ASEAN action plan (ASEAN, 1998). To establish a context for that evaluation, it begins by defining e-government and exploring the academic literature on the information age, as well as two further literatures on developmental states and Confucian societies that are relevant in an East and Southeast Asian context. Each focuses on the network concept that is central to much information age analysis. The article then reviews regional e-government initiatives before assessing national implementation records. In this core section, the article examines the ten ASEAN member states (Brunei Darussalam, Cambodia, Indonesia, Laos, Malaysia,

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Myanmar, Philippines, Singapore, Thailand, Vietnam), the three states linked to it for e-government and some other purposes (China, Japan, South Korea), and the three other states or territories that made up the region at the start of 2002 (Hong Kong, North Korea, Taiwan). The article's empirical focus is therefore the ASEAN 10 plus 6. It also looks at sub-regional groupings and individual states for detail, and at extra-regional groupings for comparison.

The key empirical question is the extent to which contemporary states in East and Southeast Asia are following the ASEAN lead by taking to the Internet, making Web sites central to their operations, building networked forms of organization, and thereby 'bridging the development gap'. As a full answer to this question is potentially vast, the article addresses only the central government level, and in that domain, focuses on Web presence and usage. Finding that e-government progress is patchy, the article's key analytical question is why the pattern of national development comes out as it does. It holds that in this domain, as in so many others, underlying national factors in the social, economic and political spheres are critical. On this basis, it argues for renewed regional assistance to under-developed societies in building e-government and participating in emergent virtual networks.

ANALYTICAL CONTEXT

A full analytical context needs both to define e-government, and to review relevant academic debates. In the latter regard, one obvious global setting is the literature on the information age. As that literature builds, in part, on a network approach drawn from modernization theory, two further literatures, on the developmental state and societies with a Confucian heritage, become relevant in an East and Southeast Asian context. Both are centrally interested in networked forms of organization.

E-government

In these still early days, an agreed sense of what is meant by e-government has not yet emerged. In a major empirical survey, the United Nations (UN) and the American Society for Public Administration (ASPA) defined e-government as 'utilizing the internet and the world-wide-web for delivering government information and services to citizens' (UN/ASPA, 2002, p. 1). However, this merely indicates that this is an umbrella term covering many diverse applications. More useful was their subsequent division of e-government into five stages: emerging, enhanced, interactive, transactional, and seamless (UN/ASPA, 2002, p. 2; also see UK National Audit Office, 2002, p. 11). Taking all 190 UN member states, the survey found that 21 (11%) had no e-government at all, 32 (17%) had emerging, 65 (34%) enhanced, 55 (29%) interactive, and 17 (9%) transactional e-government. None had seamless e-government. The USA was the clear international leader.

Many other studies have appeared, focused on e-citizenship (Hill and Hughes, 1998; Bucy and Gregson, 2001; Papacharissi, 2002), e-democracy (Coleman, 1999; Hague and Loader, 1999; Tambini, 1999; Dahlberg, 2001; Kamarck and Nye, 2002), e-legislatures (Coleman *et al.*, 1999), cyberpolitics in international relations (Choucri, 2000; Hughes, 2002), and so on. In the sphere of public administration, analysts have stressed both the impossibility of governance in the information age (Frissen, 1998), and the continuing possibilities (Bellamy and Taylor, 1998; Heeks, 1999, 2001b; Abramson and Means, 2001; Holliday, 2001; Holmes, 2001; Prins, 2001; Milner, 2002). Several studies of government presence on the Web have also been undertaken (UK National Audit Office, 1999, 2002; Accenture, 2001; Heeks, 2001a; West, 2001; UN/ASPA, 2002), and municipal activity has been surveyed (Ho, 2002; Moon, 2002). E-government is a rapidly developing field of empirical study.

The information age

At the centre of much theoretical debate is Castells' three-volume information age analysis (Castells, 1997, 2000a, 2000b). Insisting that 'we must treat technology seriously', Castells argues that the ICT revolution is 'at least as major an historical event as was the eighteenth-century industrial revolution' (Castells, 2000a, pp. 5, 29). Its product is 'informational society', permeated and structured by ICT (Castells, 2000a, p. 21). In this society, hitherto dominant organizational categories, such as class, state and nation, are superseded: '*the unit is the network*' (Castells, 2000a, p. 214). Indeed, Castells' 'over-arching conclusion' is that 'as an historical trend, dominant functions and processes in the information age are increasingly organized around networks' (Castells, 2000a, p. 500).

In emergent informational societies, the paramount organizational form is the 'network enterprise' (Castells, 2000a, Ch. 3). 'Every period of organizational transformation has its archetypal expression', he contends. 'It may well be that the business model of the Internet-based economy will be epitomized by Cisco Systems' (Castells, 2000a, p. 180). With its 'global networked business model', Cisco exploits the Internet and linked innovations to ensure that relationships are key, information is shared, and a 'networked' fabric is created. 'The core of Cisco Systems operation', claims Castells, 'is its web site' (Castells, 2000a, p. 181).

For states, the implications are substantial. Although they are not withering away in the information age, they are finding their sovereignty increasingly compromised, and are learning that to function effectively they must operate within broad networks of power. 'Nation-states may retain decision-making capacity, but, having become part of a network of powers and counterpowers, they are powerless by themselves' (Castells, 1997, pp. 304–305). States are thus in a crisis, as the world witnesses a shift from sovereign actors to strategic players. Politics has become theatre, with political institutions transformed from sites of power into bargaining agencies. National political systems have been voided of authority, and states' only option is to seek influence in global networks (Castells, 2000b, p. 378).

This central contention, that states are now getting caught up in networks of interdependence, is both powerful and problematic. It is powerful because the Internet is clearly becoming increasingly important to states wishing to link both their own employees internally, and citizens, business people and international actors externally. In the public sector as in the private, the Cisco Systems lesson has value. It is problematic because the virtual reality is that information age networks are deeply embedded in pre-existing relationships, with social structures of the real world inscribed in online networks of the virtual world (Van Dijk, 1999; Halavais, 2000; Slack and Williams, 2000; Rantanen, 2001). States have not yet conceded full sovereignty to global networks, and even in Europe, where much formal sovereignty has been pooled, integration has been pursued to promote national interests, and states have retained key decision-making powers (Moravcsik, 1998; Simpson, 2000). Thus, although state power is increasingly contested throughout the world, for many states there remain areas in which effective unilateral action is possible (Weiss, 1998). Global networks are important venues for the exercise of state power, but they have not entirely displaced it.

Developmental states

The network concept that is so central to Castells' information age analysis also features at the heart of the developmental state thesis. Fully articulated for the first time by Johnson in relation to the Japanese 'miracle' (Johnson, 1982), the thesis was soon extended to South Korea and Taiwan (Amsden, 1989; Wade, 1990; Önis, 1991; Applebaum and Henderson, 1992). In slightly differing forms, it was subsequently applied to Singapore and even, by Castells, to Hong Kong (Rodan, 1989; Castells, 1992). In 1993 the World Bank helped to cement in place a broad consensus of opinion by publishing *The East Asian Miracle* (World Bank, 1993). The inevitable backlash was evident in both real-world events and academic debate. Out in the world, the series of recessions that have plagued Japan since 1990, and the broader Asian financial crisis of 1997, undermined confidence in the ability of states in the region to generate economic growth. In academic debate, evidence of coordination problems within East Asian states (Moon and Prasad, 1994; Callon, 1995), and of autonomous non-state action (Doner, 1992; Clark and Chan, 1994; Kong, 1995; Remmer, 1997), reinforced the critique of developmental statism and bolstered neo-classical alternatives. The territorial limits of the thesis were also noted by scholars looking beyond East Asia to the Southeast Asian heartland (Hawes and Liu, 1993). Nevertheless, through all of this, the argument continued to be made that leading East and Southeast Asian states play a key role in pulling together social actors and directing them to the over-arching goal of economic growth (Wade and Veneroso, 1998). Their autonomy may be 'embedded', but through connections and cooperation they remain effective shapers of economic growth and development (Evans, 1995; Weiss, 1995, 1998; Weiss and Hobson, 1995).

Although the network argument that features in this literature is not the same as that advanced by Castells, there are clear parallels. Developmental state theorists hold that elite public and private sector actors are connected in synergistic ways, with outputs from one sector becoming inputs for the other. Networks of mutual advantage in which state actors play animating roles permeate the upper reaches of society. 'This combination,' argues Wade,

'has improved upon the results of free markets' (Wade, 1990, p. 5). Developmental state theory thus suggests that at least some state actors in the region should experience few problems in adding virtual networks to the many real networks in which they have long operated.

Confucian societies

A final analytical context, linked to the previous one, is a contemporary debate about networks of trust and cooperation in societies with a Confucian heritage. In part, this is an offshoot of the 'Asian values' debate prompted by leading political figures such as Singaporean Senior Minister Lee Kuan Yew and Malaysian Prime Minister Mahathir bin Mohamad (Bell, 2000; Lee, 2000). In part, it picks up on a strand of academic discourse traceable at least as far back as Weber's analysis of Oriental society, seen by him as obstructive of the contractual relations characteristic of modernity. Again, Castells is a contributor. Drawing on Hamilton and Biggart (1988), he identifies three types of contemporary business network in East Asia, based on a communitarian logic in Japan, a patrimonial logic in Korea, and a patrilineal logic in the Chinese enterprises created in Taiwan (Castells, 2000a, p. 195).

Moving beyond Castells, scholars in a collaborative East Asian project are currently focusing on the multitude of ties (blood, school, locality, and so on) that structure relationships in societies with a Confucian heritage. The links created by Chinese *guanxi*, Japanese *ningengangei* and Korean *yongo*, and the networks thereby generated, are said to be the functional equivalent of the intermediate organizations that occupy the territory between family and state in the West, and make up a civil society. In Confucian societies, networks permeate all forms of social organization. Chinese *xiangjingyiye*, Japanese *keiretsu*, Korean *chaebol* and Taiwanese *jiazugiyeye* are instances from the economic sphere. Factional parties can be cited in the political realm (Hahm *et al.*, 2001; Bell and Hahm, 2003).

The argument that in much of East and Southeast Asia, pre-existing communal ties provide the critical social context within which contemporary economic and political activity takes place reinforces the contention that networking forms of organization are readily built. Such forms are not merely an option pursued by elite actors within developmental states. They are institutional underpinnings that have existed for centuries and continue to shape multiple activities.

Analyzing e-government in East and Southeast Asia

Castells' information age thesis holds that networking forms of organization are promoted by the emergence of the Internet and e-government. Analyses of developmental states and Confucian societies reveal that such organizational forms have long underpinned relationships in much of East and Southeast Asia. We must of course take care in creating an analytical context from these literatures. For one thing, the 'pull' factor of the Internet is clearly not experienced equally across East and Southeast Asia, and the 'push' factors of developmental statism and Confucianism are present only in some societies. More importantly, the network concept that appears in each literature is both slippery and variable. When Castells writes about information age networks, he has in mind pervasive links that overwhelm and supplant established institutions, such as states. By contrast, when Johnson and others write about developmental state networks, they identify instrumental connections that bring together and enhance existing institutions. Finally, when scholars analyse Confucian society networks, they point to long-standing ties that underpin and structure the operation of established institutions. Although networks are thus a key feature of societies in much, possibly all, of the region, the degree to which pre-existing networks perform a similar function to information age networks is limited. In other words, we are not dealing with a single concept here, but with variations on a theme. Nevertheless, the chances of ASEAN's developmental e-government strategy landing on fertile ground would seem to be good.

REGIONAL E-GOVERNMENT INITIATIVES

In East and Southeast Asia, regional e-government initiatives have been taken chiefly by ASEAN. Created in 1967 by five states (Indonesia, Malaysia, Philippines, Singapore, Thailand) with reasonably similar economic, social and political profiles, ASEAN subsequently added further members in 1984 (Brunei Darussalam), 1995 (Vietnam), 1997 (Laos, Myanmar) and 1999 (Cambodia). At the start of 2002, it comprised all ten Southeast Asian nations,

Table 1. Basic socio-economic data of ASEAN +6 states 2000–2001

	Size: territory (sq km)	Size: population (m)	Economy: agriculture (% GDP)	Economy: industry (% GDP)	Economy: services (% GDP)	GDP per capita (US\$, PPP)	Literacy rate (%)
Brunei Darussalam	5770	0.3	5	46	49	17,600	88
Cambodia	181,040	12.5	43	20	37	1300	35
China	9,596,960	1273.1	15	50	35	3600	82
Hong Kong	1092	7.2	0	14	86	25,400	92
Indonesia	1,919,440	228.4	21	35	44	2900	84
Japan	377,835	126.8	2	35	63	24,900	99
Laos	236,800	5.6	51	22	27	1700	57
Malaysia	329,750	22.2	14	44	42	10,300	84
Myanmar	678,500	42.0	42	17	41	1500	83
North Korea	120,540	22.0	30	42	28	1000	99
Philippines	300,000	82.8	20	32	48	3800	95
Singapore	648	4.3	0	30	70	26,500	94
South Korea	98,480	47.9	6	41	53	16,100	98
Taiwan	35,980	22.4	3	33	64	17,400	94
Thailand	514,000	61.8	13	40	47	6700	94
Vietnam	329,560	79.9	25	35	40	1950	94

Note: Although most data are 2000–2001 estimates, some are drawn from the late 1990s.

Source: US Central Intelligence Agency, 2002.

with a range of social, economic and political profiles. In the region as a whole, there is also considerable socio-economic diversity (Table 1). In addition, there are deep cultural and political differences.

The ASEAN e-government initiative dates from its 6th Summit, held in Hanoi on 15–16 December 1998. The Hanoi Declaration stated that ‘We shall continue to cooperate and strengthen ASEAN’s capacity in science and technology, particularly in the field of information technology. Towards this end, we shall develop the ASEAN Information Infrastructure’ (ASEAN, 1998). The Hanoi Plan of Action, with a six-year time frame covering the period 1999–2004, devoted its third chapter to promoting science and technology, and to developing ICT infrastructure. Picking up on the plan, a Working Group on ASEAN Information Infrastructure was formed, and met five times between June and October 1999. Its interim progress report was then fed into the deliberations of the 31st ASEAN Economic Ministers Meeting, held in Singapore on 30 September 1999. Out of this meeting came an e-ASEAN Task Force with responsibility ‘to develop a broad and comprehensive action plan for an ASEAN e-space and to develop competencies within ASEAN to compete in the global information economy’ (ASEAN, 2002). The initiative was commended by ASEAN leaders at the 3rd Informal Summit held in Manila on 27–28 November 1999 (ASEAN, 1999, para 16). Meeting for the first time in March 2000, the Task Force held its thirteenth meeting in October 2002. In bringing together individuals from the public and private sectors across all ten member states, it was the first ASEAN advisory body to draw in non-government actors.

To date, the most visible policy output is an e-ASEAN Framework Agreement on Information and Communications Technology Products, Services, and Investment, signed by ASEAN leaders at the 4th Informal Summit in Singapore on 24 November 2000 (ASEAN, 2000). As part of this policy initiative, member states have pledged to eliminate duties and non-tariff barriers on intra-ASEAN ICT trade in three tranches: 1 January 2003, 2004 and 2005 for the first six member states; 1 January 2008, 2009 and 2010 for the other four. ASEAN aims to have e-commerce legislation in place in all member states by 2003 (ASEAN, 2000). It has also launched additional projects: ARIX, or ASEAN Regional Internet Exchange, and an e-Farmers initiative promoted by the ASEAN Secretariat to help rural populations exploit the Internet in marketing products. Each policy strand is intended to help build e-government.

In the wider region, an ASEAN +3 Summit Meeting held in November 2000 brought together leaders of ASEAN, China, Japan and South Korea, and led to the formation of an e-ASEAN Working Group +3 in July 2001. On 15 September 2001, a Japan–ASEAN Bilateral Meeting on ICT Cooperation, held in Tokyo, agreed

to construct a partnership between Japan and the ASEAN Secretariat, the e-ASEAN Working Group and the e-ASEAN Task Force (Japan Ministry of Foreign Affairs, 2001). On 5 November 2001, at Bandar Seri Begawan, the 7th ASEAN Summit, which coincided with the 5th ASEAN +3 Summit, made ICT progress a key priority in 'bridging the development gap' (ASEAN, 2001, para 17). National strategies confirm the importance placed on ICT for development within the region (Harris *et al.*, 2001).

East and Southeast Asian states have thus taken coordinated steps to develop e-government strategies, with first ASEAN and then Japan playing key roles. Only the non-state of Hong Kong, the contested state of Taiwan, and the closed state of North Korea have not been brought into the process.

E-GOVERNMENT IN EAST AND SOUTHEAST ASIA

This, then, is the policy framework. We now need to examine what has happened at the level of implementation. In the period 1–10 January 2002, an 'unobtrusive measures' survey of government Internet usage was carried out, drawing on a University of London methodology (UK National Audit Office, 1999, p. 75). Using objective coding frames, a team of researchers, carefully briefed on procedures, visited government sites in East and Southeast Asia to gather data on states' Internet visibility, utility, and connectivity. The reported results were immediately cross-checked. The timing placed the survey at the mid-point of the six-year period covered by ASEAN's Hanoi Plan of Action, and no more than a few months after the extension of the e-ASEAN initiatives to its partner states in East Asia. It therefore captured an incomplete implementation process, and must be read in this context. The exercise remains valuable in indicating how policy implementation is progressing in this important sphere.

At the outset, four main limitations should be stated. Firstly, as the survey was undertaken in the period 1–10 January 2002, it is a snapshot of states' Internet activity at a brief moment near the start of the new millennium. When faced with a rapidly moving target, this was the only viable strategy. Secondly, the survey looked only at central government sites, ignoring regional and local government. The rationale is that if e-government is not taking place at the centre, a state cannot be said to be up to speed with the information age. Thirdly, the survey examined only Web presence, and did not probe 'back office' operations and reorganizations. Again, such changes are not possible unless Web sites are constructed. Finally, the survey investigated official government sites only, and disregarded 'friends of' sites constructed for states with an otherwise limited or non-existent Internet presence. This approach was taken because externally constructed sites do not reflect state activity, and tell us nothing about the extent to which states are exploiting the Internet to join virtual networks.

The first issue addressed by the survey was the visibility of government homepages on the Web. For this part, coders used the Google, Infoseek, Lycos, Netscape and Yahoo! search engines. In each case, they typed 'X government' into the search window, and recorded whether the official government homepage appeared in results 1–10.¹ In this way, they were able to generate one basic measure of government Internet activity: whether the government homepage is visible on the Web. Table 2 provides results for ASEAN, ASEAN +3 and ASEAN +6, as well as for four other regional groupings: Asia-Pacific Economic Cooperation (APEC), the European Union (EU), the Group of Eight (G8), and the Organization for Economic Cooperation and Development (OECD). There are some oddities in the pattern that emerged, such as the low visibility of cutting-edge e-governments like the USA (60%) and Australia (20%), both of which were placed among the top five e-governments in 2001 by Accenture and the UN/ASPA (Accenture, 2001; UN/ASPA, 2002). This is almost certainly because the survey had difficulty picking up states with institutional structures fragmented by either a separation of powers or federalism (or both). However, this is a problem more for such states than for the survey itself. Overall, East and Southeast Asian states were under-performers whether the focus was ASEAN, ASEAN +3 or ASEAN +6. In each case, returns in the top two categories were in the range 23–30%, and in the bottom two categories were in the range 38–50%. The other regional associations all had 'top two' returns above 30%, and 'bottom two' returns comfortably below 38%.

¹For most governments, the name to take the place of 'X' was straightforward. In three cases, however, two different names were used: North Korea/Democratic People's Republic of Korea; South Korea/Republic of Korea; Taiwan/Republic of China.

Table 2. Visibility of government homepages of ASEAN, ASEAN +3, ASEAN +6, APEC, EU, G8, OECD states in January 2002

Percentage of appearances in results 1–10	100	80	60	40	20	0
ASEAN 10 states	20% Brunei Singapore	10% Thailand	20% Indonesia Malaysia		20% Cambodia Philippines	30% Laos Myanmar Vietnam
ASEAN +3 13 states	15% Brunei Singapore	8% Thailand	38% China Indonesia Japan Malaysia South Korea		15% Cambodia Philippines	23% Laos Myanmar Vietnam
ASEAN +6 16 states	19% Brunei Hong Kong Singapore	6% Thailand	38% China Indonesia Japan Malaysia South Korea Taiwan		13% Cambodia Philippines	25% Laos Myanmar North Korea Vietnam
APEC 21 states	19% Brunei Hong Kong New Zealand Singapore	14% Canada PNG Thailand	43% Chile China Indonesia Japan Malaysia Russia South Korea Taiwan USA		14% Australia Mexico Philippines	10% Peru Vietnam
EU 15 states	7% Germany	33% Ireland Luxembourg Spain Sweden UK	27% Austria Belgium Finland Greece	20% Denmark France Portugal	13% Italy Netherlands	
G8 8 states	13% Germany	25% Canada UK	38% Japan Russia USA	13% France	13% Italy	
OECD 30 states	7% Germany New Zealand	30% Canada Czech Rep Hungary Ireland Luxembourg Spain Sweden Switzerland UK	37% Austria Belgium Finland Greece Iceland Japan South Korea Norway Slovak Rep Poland USA	10% Denmark France Portugal	17% Australia Italy Mexico Netherlands Turkey	
Total 48 states	10%	23%	35%	6%	15%	10%

Table 3. Utility of government homepages of ASEAN, ASEAN +3, ASEAN +6 states in January 2002

	Information about government	Contact details	Feedback points	Search engine	Links to government departments	Links to non-government	% Yes
Brunei Darussalam	Y	Y	Y	N	Y	Y	83
Cambodia	N	N	N	N	Y	N	17
China	N	N	N	Y	Y	Y	50
Hong Kong	Y	Y	Y	Y	Y	Y	100
Indonesia	Y	N	Y	N	Y	Y	67
Japan	Y	N	Y	Y	Y	Y	83
Laos	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Malaysia	N	N	Y	Y	Y	Y	67
Myanmar	N/A	N/A	N/A	N/A	N/A	N/A	N/A
North Korea	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Philippines	Y	Y	Y	Y	Y	Y	100
Singapore	Y	Y	Y	Y	Y	Y	100
South Korea	Y	N	N	Y	Y	Y	67
Taiwan	Y	N	Y	Y	Y	Y	83
Thailand	Y	N	N	N	Y	Y	50
Vietnam	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ASEAN Yes (%)	50	30	50	30	70	60	48
ASEAN +3 Yes (%)	54	23	46	46	77	69	53
ASEAN +6 Yes (%)	56	25	50	50	75	69	54

Note: No government homepage could be located for Laos, Myanmar, North Korea and Vietnam.

The second issue was the utility of government homepages. Six questions were asked to determine this. Does the homepage: (a) provide a clickable link to information about what the government does? (b) provide contact details (e.g., address, phone, fax or email) for named officials? (c) provide opportunities for feedback on government policies? (d) have its own search engine? (e) provide clickable links to government departments? (f) provide clickable links to related sites outside the government? The survey results for all 16 states of East and Southeast Asia are given in Table 3. They show that in January 2002, Laos, Myanmar, North Korea and Vietnam had no official government homepage. Among the other 12 states, the results were mainly positive, with only Cambodia registering more negative than positive responses to the six questions. Hong Kong, the Philippines and Singapore all registered positive responses across the board. States in the region were strongest in providing clickable links to government departments, and to related sites outside the government.

To gauge how East and Southeast Asian states compared with states in other regions, this part of the survey was extended to APEC, the EU, the G8 and the OECD. Table 4 shows that, once again, states in East and Southeast Asia were always the worst performers, whether the focus was ASEAN, ASEAN +3 or ASEAN +6. In almost all cases, the best regional results came from ASEAN +6, with only the question about links to government

Table 4. Utility of government homepages of ASEAN, ASEAN +3, ASEAN +6, APEC, EU, G8, OECD states in January 2002

	Information about government (%)	Contact details (%)	Feedback points (%)	Search engine (%)	Links to government departments (%)	Links to non-government (%)	Total (%)
ASEAN	50	30	50	30	70	60	48
ASEAN +3	54	23	31	46	77	69	50
ASEAN +6	56	25	50	50	75	69	54
APEC	71	43	71	67	95	81	71
EU	100	67	73	80	100	100	87
G8	88	50	88	88	100	88	83
OECD	90	63	77	83	93	87	82
All 48 states	75	50	67	67	88	75	70

Table 5. Connectivity of regional associations in East and Southeast Asia: ASEAN, APEC states in January 2002

	Number of government sites linked from ASEAN	Number of government sites linked from APEC
Brunei Darussalam	3	2
Cambodia	1	N/A
China	N/A	2
Hong Kong	N/A	3
Indonesia	2	9
Japan	N/A	6
Laos	1	N/A
Malaysia	3	3
Myanmar	0	N/A
Philippines	2	5
Singapore	3	3
South Korea	N/A	14
Taiwan	N/A	2
Thailand	3	6
Vietnam	1	0

Note: North Korea was a member of neither ASEAN nor APEC.

departments generating a marginally better return for ASEAN +3. Among other regional associations, the top performer was the EU, followed by the G8, OECD and APEC.

The third issue was the connectivity of major regional associations in East and Southeast Asia, and the extent to which they were acting as information hubs through the Internet. Table 5 shows that for both ASEAN and APEC, the results were disappointing. Despite its e-government initiatives, ASEAN was on the whole the worse performer, linking to a maximum of three government sites in its member states. For APEC, the situation was more variable, ranging from zero sites in Vietnam to 14 in South Korea.

Finally, the survey looked beyond government homepages to Web sites put up by central government agencies ranging from policy ministries, departments and bureaux to central delivery agencies and linked organizations. Six questions, similar to those asked about government homepages, were put, with a seventh added to cover electronic service delivery. Does the site: (a) provide a clickable link to information about what the department does? (b) provide contact details (e.g., address, phone, fax or email) for named officials? (c) provide opportunities for feedback on departmental policies? (d) have its own search engine? (e) provide a clickable link to the government homepage? (f) provide clickable links to related sites outside the department? (g) contain electronic service delivery facilities of any kind (such as downloadable forms)? Here it is hard to present the results in tabular form. Instead, a more synthetic overview is given. The 16 states break into four groups of four, comprising high, medium, low, and zero or close to zero government Internet activity. These groupings are not hard and fast, but they do enable some order to be imposed on the diversity of experience within the region. They are similar to four basic groupings identified by the UN and ASPA: high, medium, minimal, and deficient e-government capacity (UN/ASPA, 2002, p. 7).

High Internet activity: Hong Kong, Japan, Singapore, Taiwan

The regional e-government leaders all had a strong and visible Internet presence, and comprehensive government sites. Some also made creative use of the Internet in key respects. *Hong Kong* had 75 sites available in Chinese and English. All had clickable links to information about the organization and gave feedback opportunities, and more than 95% provided contact details for named officials. Around 85% provided clickable links to the main government homepage, and 80% provided links to external sites. Around 70% had a search engine, and 45% offered some form of electronic service delivery. Hong Kong has an e-government strategy, and is a strong performer (Hong Kong Information and Technology Broadcasting Bureau, 2002). Despite launching an e-Japan strategy designed

to make it 'the world's most advanced ICT nation' by the middle of the current decade, *Japan* had a somewhat unimpressive Internet presence in January 2002, and a fragile place among the regional leaders (Japan IT Strategy Headquarters, 2001). It had 30 sites, mainly available in Japanese and English, though the English version was not always as rich as the Japanese. Around 90% of sites provided clickable links to external sites, and around 70% had clickable links to information about the department or agency and contained a search engine. More than 50% provided clickable links to the government homepage, and 40% gave feedback opportunities. Possibilities for downloading forms from sites were rare. No site provided contact details for named officials. *Singapore* had 40 sites available in English only. More than 90% provided clickable links to information about the department or agency, and feedback opportunities. More than 80% had links to external sites. Around 60% had a search engine, and clickable links to the main government homepage. Some 45% were involved in electronic service delivery. Only 10% provided contact details for named officials. Finally, *Taiwan* had 48 sites mainly available in Chinese and English. More than 90% of sites had a search engine, provided clickable links to the government homepage, to information about the department or agency and to external sites, and offered feedback opportunities. Some 75% made forms available for downloading. A little more than 50% provided contact details for named officials.

Medium Internet activity: Brunei Darussalam, Philippines, South Korea, Thailand

All states in the medium grouping had a strong Internet presence, but did not make extensive or creative use of the Internet. *Brunei Darussalam* had 48 sites constructed to a set template and available in Malay and English. All sites thus shared a number of key features: clickable links to the main government homepage, to information about the department or agency, to a set list of contact points, and to a feedback form. However, beyond that the sites were rather limited. Around 10–20% provided links to external sites, and contact details for named officials. About 5% made forms available for downloading. None had a search engine. The *Philippines* had 46 sites available in English only. Its place among the medium performers was quite strong. More than 90% of sites provided clickable links to information about the department or agency, and offered feedback opportunities. Around 80–90% of sites provided clickable links to related external sites, and contact details for named officials. More than 40% of sites had a search engine. However, only around 25% of sites provided downloadable forms, and clickable links to the main government homepage existed on only 5% of sites. Nevertheless, there is good reason to be positive about Internet usage in the Philippines (Sy, 2001). *South Korea* had 56 sites, mostly available in Korean and English, though the English version was often less rich. More than 90% of sites provided clickable links to information about the department or agency, and to external sites. More than 80% had a search engine. Around 50% had clickable links to the main government homepage. In other respects, the sites were more limited, with around 25% providing contact details for named officials, a little more than 10% offering feedback opportunities, and almost no sites making forms available for downloading. *Thailand* had 92 sites, the largest number of any state in East and Southeast Asia. Around 50% were available in Thai only, with the rest being available in English too and, occasionally, additional languages. More than 90% of sites provided clickable links to information about the work of the department or agency. Around 60% also provided clickable links to external sites. Thereafter, the Thai sites were more patchy in content, with 35% providing contact details for named officials, 20% having a search engine, and few sites having a clickable link to the government homepage, feedback opportunities or forms for downloading.

Low Internet activity: Cambodia, China, Indonesia, Malaysia

One state in the low grouping, *Cambodia*, could have been placed even lower, at close to point zero. However, it had 11 functioning sites, mainly trade-related, with features like contact details for named officials. The other three states all had a larger Internet presence, but in each case it was uneven and in key respects unimpressive. *China* had 40 sites, of which 14, mainly with some sort of international remit, were also available in English. Among the 40 sites, more than 90% provided clickable links to information about the department or agency and to related sites outside it, and more than 70% provided a clickable link to the main government homepage. Some 45% had a search engine. However, no more than about 10% of sites provided contact details for named officials or feedback opportunities, or made forms available for downloading. Although the Internet is seen as integral to Chinese development, and some forms of e-government are emerging, there is still considerable room for improvement (Dai, 2002;

Zhang, 2002). *Indonesia* had 24 accessible sites (and a further six that could not be accessed). Many were available in Indonesian only, or had limited English coverage. More than 50% of the 24 sites had clickable links to information about the department or agency, and to related sites outside it. More than 45% had a search engine, and provided feedback opportunities. However, fewer than 10% of sites provided clickable links to the main government homepage, or provided contact details for named officials. No sites made forms available for downloading. Finally, *Malaysia* had 32 sites in a mix of Malay and English (some Malay-only, some English-only, some both languages). Around 75% of sites had clickable links to information about the department or agency, and to related sites outside it. Around 40% had a search engine and provided feedback opportunities. Around 30% gave contact details for named officials. Around 15% made forms available for downloading.

Zero or close to zero Internet activity: Laos, Myanmar, North Korea, Vietnam

Only one state, *North Korea*, had no Internet presence whatsoever. However three others were so close to this that they were best placed at zero point. Crucially, each had no government homepage. The one *Laos* government site, linked to the ASEAN site, was that of the Laos PDR Embassy to the USA. Beyond this, Laos had no sites at all. *Myanmar* had one concentration of government sites, though an additional set of sites brought together under www.myanmar.com, copyrighted to Golden Land! Inc, could be reached from the ASEAN site. These were all constructed and maintained by ASEAN's Committee on Culture and Information. Among them, the one site bearing a Myanmar government address was www.energy.gov.mm. The Ministries of Energy, Electric Power, Forestry, and Mines all had clickable links from this site. Finally, *Vietnam* had only one government site, the Ministry of Trade at www.mot.gov.vn. Two further sites could be reached from the ASEAN site: the Communist Party site, and a Ministry of Foreign Affairs site constructed by ASEAN.

CONCLUDING ASSESSMENT

ASEAN's e-government initiative, launched at the end of 1998 and subsequently extended to other parts of the region, has yet to run its full course. However, the interim evaluation reported here suggests that it will take more than regional rhetoric to bridge the development gaps that currently exist among highly diverse nations. In the information age, as in earlier ages, social, economic and political factors are leading determinants of national progress (Heeks, 2001a). With only one or two exceptions (notably Malaysia), the correlation between GDP per capita and Internet activity is close. Thus, although pre-existing networking structures in much of the region suggest that East and Southeast Asia will eventually take to the networked relationships of the information age, the fundamentals of development and under-development are currently more powerful.

To build e-government through ICT progress, and thereby secure the development it seeks, ASEAN must therefore pay renewed attention to strategy. There are some positive signs in its current initiatives. The composition of the e-ASEAN Task Force, which draws in state and non-state actors from all ten members, is encouraging, as is its proactive stance. ARIX and the e-Farmers programmes are valuable. Furthermore, demonstration effects, possibly reinforced by 'Internet anxiety', could one day be significant (White and Scheb, 2000). Nevertheless, for e-government to become a reality across East and Southeast Asia, targeted capacity-building measures need to be taken at the level of individual states (Heeks, 2001b). Only by making its regional information age rhetoric conform to national and local development priorities can ASEAN secure progress. For states in East and Southeast Asia to participate fully in the virtual networks of the emergent information age, development at the level of more mundane social, economic and political realities remains necessary.

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