



Policy Reform Monitoring Report



Issue No. 8

February 6, 2003

RA 8792 or the Electronic Commerce Act of 2000: Laying Down the Groundwork for Accelerating E-commerce Growth

I. Introduction

RA 8792 or the Electronic Commerce Act of 2000 (ECA) was enacted in 14 June 2000 to establish a secure legal framework for electronic (e) transactions in the Philippines. It was meant to boost e-commerce, especially among small and medium enterprises (SMEs), and those firms that are based outside of the metropolitan areas. The law also mandated the government to perform its functions electronically - all agencies were required, for example, to connect to the Internet by June 2002. It was also enacted to penalize e-commerce-related offenses. To date, the ECA's security provision has not been tested but a case involving the theft of an electronic information is currently being heard in the courts.

Anecdotal evidence suggests that the ECA's implementation has been successful in propelling Business to Business (B2B) e-commerce. It was able to encourage large conglomerates to engage in online procurement, which led to more companies offering their respective products online. However, the law fell short of addressing local demand-side concerns, which muted its impact on consumer to consumer (C2C) and business to consumer (B2C) transactions. The government should therefore promote e-commerce, especially in the countryside where the awareness level is presumably lower, to develop its use among consumers. It should also work towards resolving infrastructure-related concerns, which have been stifling information, communications and technology (ICT) growth in the country.

The law also has yet to accelerate international e-commerce beyond its natural growth rate. The ECA did not address the issue on jurisdiction and arbitration of international disputes that was supposed to mitigate the uncertainty of participating in the global market. This problem needs to be rectified considering that globalizing local companies was one of the primary objectives of the law. The government should eventually work towards establishing related treaties with relevant nations. Since this would entail considerable time and effort, the Department of Trade and Industry (DTI) should, in the interim, need to establish legal IT support desks.

Budget constraints and the abrupt changes in the political landscape have prevented the government from fulfilling its e-government mandate. A number of government agencies are reportedly at the advanced stages of complying with the ECA's mandate, but a number are still far from e-enabling their operations. A recent survey conducted by Digital Philippines, for example, showed that e-government in the Philippines is still at its early

stages. Only 19% of government websites are interactive and none of them can even be considered transactional. This problem should be mitigated as soon as funds become available. Beyond being e-enabled, government agencies should coordinate their individual efforts in order to ensure that e-government development would be citizen centered. Coordinated agencies also need to link their systems together in order to minimize red tape and improve efficiency.

II. Background and Assessment Rationale

The ECA was drafted based on the United Nations Commission on International Trade Law (UNCITRAL) Model Law on Electronic Commerce, to harmonize the ECA provisions with e-commerce laws of other countries. Its enactment made the Philippines the third Southeast Asian country to have a law on electronic transactions. The ECA contains the following salient points:

- It recognizes the legal validity of electronic documents making agreements done electronically as legally binding as written transactions.
- It establishes the admissibility of electronic documents in court proceedings. The documents are given as much weight as written documents for as long as their authorship and integrity are properly authenticated.
- It affirms the validity of electronic signatures by recognizing the equivalence of written and electronic signatures. It, however, mandates the latter to be reliable and independently verifiable to make it more secure against forgery.
- It promotes e-governance. The law mandates the government to be online by June 2002. This mandate includes being able to perform all government functions electronically and having all government agencies linked up in an online network.
- It penalizes related offenses. The law provides security to e-commerce players by penalizing unauthorized access into a computer system. It also penalizes authorized network access if such is meant to corrupt, alter or steal data.

This assessment attempts to determine the impact of the ECA on developments in e-commerce over the last two years. It also seeks to determine areas that may need to be refined or improved to make the law more consistent with its goals.

III. Method of Assessment

The ECA was meant to further accelerate the exponential growth of e-commerce in the Philippines. Hence, this report attempts to assess the success of the ECA based on its ability to improve local e-commerce growth, beyond its natural rate. This assessment hopes to answer the following questions.

1. **Did the ECA encourage local businesses to offer online transactions?** The ECA would also be positive to e-commerce growth only if online merchants have made online transactions available during the last two years. Legalizing online transactions would be meaningless for online merchants who only use their web sites for advertising purposes.
2. **Did the law increase local demand for e-commerce transactions?** The e-commerce economy is arguably demand-driven. Online merchants would only invest huge amounts of funds in making electronic transactions available to customers, if this would translate to sales.
3. **Did the ECA establish the legal framework that would allow local players to participate in the global e-market place?** The potential for tapping the enormous global market was the driving factor behind the enactment of the ECA. Local online merchants practically pleaded for the passage of the law in order to allow them to confidently transact with foreign e-commerce players.

IV. Impact of RA 8792 on E-Commerce

Domestic e-commerce gained from the enactment of the ECA. This was most evident in B2B e-commerce, which early in the law's implementation has generated varied interest from local conglomerates. The law, however, had a less pronounced impact on B2C and C2C e-commerce and negligible impact on the country's international e-commerce activities. The law fell short of spurring e-commerce demand and it failed to address international jurisdiction and arbitration issues, respectively.

Positive Impact on Local B2B Transactions. The ECA made its most significant impact on B2B e-commerce by giving entrepreneurs confidence to engage in electronic transactions. Soon after the law's implementation, large conglomerates started to purchase their supplies via online procurement methods, which they eventually found to be more time and cost efficient method. This is evident in the growth of online bidding services, like the BayanTrade.com, which reportedly around P2.7 billion worth of transactions as of September 2002. This encouraging trend, according to online traders, is expected to further accelerate in the next few years because of the following developments:

- **Emergence of local certification authority.** The enactment of the ECA gave rise to the establishment of MySecureSign (mSSI) Philippines - a local certification authority (CAs), which issues digital certificates to e-commerce participants to establish their credentials when doing business or other transactions on the internet. This is a significant development for local firms that previously employed foreign CAs. A local CA is more appealing because subject to local laws. Hence, if there were any conflict between mSSI and its clients, both parties would fall under the common legal framework provided by the ECA.
- **Development of Alternative Online Payment Facilities.** Faced with the lack of payment facilities, some financial institutions have recently introduced alternative online payments schemes to service online merchants. The Bank of

the Philippine Islands (BPI), now allows its depositors to pay their monthly bills online through a simple fund transfer facility, while the United Coconut Planters' Bank (UCPB) offers a service similar to online checks.

- **Increasing Demand for Logistics-Based Services.** The increase in the number of online transactions led to the emergence of online logistics service providers like e-2-door.com. Such services offer delivery options that are priced in the local currency – regardless of where these products were purchased. This scheme is particularly interesting to consumers and online merchants who want to avoid incurring foreign exchange risks in their transactions. An increase in the demand for logistics services is expected to cause a ripple effect in the local industry, which should raise the supply for such services.

Minimal Impact on B2C and C2C Transactions. Two years of implementation were not enough for the ECA to spur B2C and C2C e-commerce, because among other things, it did not squarely address the following demand side concerns:

- **Lack of information.** Most Filipinos are still unaware of e-commerce. The ECA did not incorporate any concrete awareness-related provision in the law, which should have informed local citizens about the merits of transacting online. Such awareness programs, according to some online traders, are necessary to promote the use of the Internet for more productive purposes.
- **Insufficient infrastructure.** Local demand for e-commerce services is also minimal because of the lack of appropriate infrastructure. The increase in the number of Internet cafés notwithstanding, the inadequacy of telecommunication facilities constrained Internet penetration in the country. Affordable logistical infrastructure to support the delivery of e-commerce services is also wanting. The high cost of wireless platforms - i.e. those that use mobile telephones and television-based networks confined Internet use to the traditional fixed telephone line infrastructure. This problem nullifies the efficiency advantage, supposedly enjoyed by online merchants over their real world counterparts.

Negligible Impact on International E-Trade. The ECA has barely affected local participation in international e-trade because the law failed to address the issue of jurisdiction and international arbitration. The ECA maintained the status quo, and hence failed to mitigate the uncertainty faced by local e-commerce players when transacting with foreign traders. This is a significant weakness in the e-commerce law because Philippine Internet users make up a minute portion of the global Internet user population. The ECA thus failed to expand local e-traders' target market beyond its natural rate.

Although the law failed to protect Filipino traders against foreigners, it protected the latter's rights against Filipinos. This would then give foreign traders and consumers the confidence to transact with Philippine buyers and sellers – which would result in local e-commerce growth. The latter impact is, however, mitigated in the near term by the following:

- The law, as per Sec. 39, only protects foreign traders who live in counties that afford a reciprocal right to Filipinos. This limits the impact of the ECA as only a few countries have e-commerce laws. It is conceivable however, that the number of countries with e-commerce laws would eventually grow. This could significantly, in the future, raise the number of online transactions that are protected by the ECA.
- The enactment of the law is conceivably immaterial to foreign traders who have already been engaging in e-commerce even before June 2000.

V. Impact on E-Government

The ECA fell short of encouraging the government to be completely e-enable by June 2002. This was, however, never considered as entirely realistic even when the law was being drafted. Legislators have conceded that the country's precarious financial situation would make it hard for the government to comply with the time-bound mandate. The enactment of the ECA, however, scored a major victory for the country's e-government effort by making electronic documents as acceptable as their written counterparts. The law, according to Department of Transportation and Communication USec. Virgilio Pena, has empowered the government to improve its backroom and frontline operations by legalizing electronic document transfers. This is a major requisite for implementing cost-saving and efficiency-enhancing measures in the near future.

Government is at the Early Stages of E-Readiness. Studies conducted by local and international institutions indicate that e-government is still at its early stages in the Philippines. These studies compared various countries' respective web presence, e-government capacity and e-government readiness.

- **United Nations and the American Society of Public Administration (UN-ASPA).** The UN-ASPA developed an index that assessed the e-government capacity of 144 UN Member States, based on their web presence, ICT infrastructure and human capital measures. The web presence measure captures a country's online stage of development based on five stages of e-government (see Appendix 1). The second measure gauges a country's ICT infrastructure capacity on six primary indicators: PC penetration, internet hosts per 10,000 individuals, internet penetration, telephone density, mobile phone density and televisions per 1,000 individuals. The third measure captures a country's and its citizens' facility, opportunity and willingness to use online government. It is based on the UN Development Program's Human Development Index, the Transparency International's Information Access Index and the subject country's urban – rural population ratio.
- The Philippines, based on the E-Gov Index, was among the UN member states that have minimal e-government capacity. Its 1.44 index value, was however, the 6th in its class, between Cuba's 1.49 and Costa Rica's 1.42 (see Appendix 2). Countries were grouped into four classes: high, medium, minimal and deficient E-Gov capacity.

- **Digital Philippines Report.** A study released by the Digital Philippines in April 2002 applied the web presence measure used by the UN-ASPAs to assess the e-government profile of the Philippines. It found that, among the 140 national government websites it surveyed: no government agency has a transactional website, about 14% of the government websites were unreachable, only 24% of the government websites can be considered rudimentary at best, and about 19% of the surveyed websites can be considered interactive.

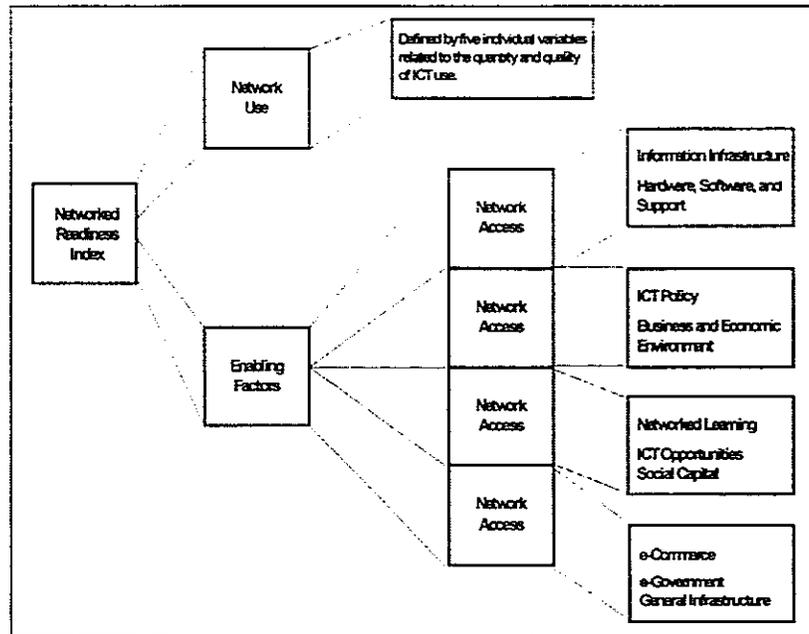
The study focused on the government agencies' web presence because it is reflective of the e-readiness of the government as a whole. Websites are the government's most potent tools in offering its frontline services. They are the easiest to implement and the least costly to spend for, among the various e-government initiatives. Their quality and sophistication therefore indicate the government's potential for embracing the goals of e-government.

- **The Global E-Government, 2002 Report.** This annual report is conducted by the Center for Public Policy of Brown University, to rate the online presence of governments around the world. Evaluating 1,197 government websites in 198 countries, the report ranked the Philippines 80th (see Appendix 2) in terms of information availability, service delivery and public access – between Guyana (79th) and Hungary (81st). The country's rank fell from being 52nd in 2001 despite the improvement in its rating from 32.8% to 42.4%, as e-government improvements in other countries outpaced that of the Philippines'.
- **E-Association of Southeast Asian Nations (e-ASEAN) and IBM Global Services E-Readiness Report.** The report resulted from a survey of the e-readiness of ASEAN countries. It defined e-readiness based on the four stages in the development of an information economy (see Appendix 3): emerging, evolving, embedding and extending. Each member state was evaluated based on the five main components of the e-ASEAN Framework Agreement: e-Society, e-Commerce, e-Government, ICT Infrastructure, and Liberalizing Trade in ICT Goods and Services. Measuring e-government readiness in terms of penetration, use type, and organization, the report made the following assessment of the Philippines.
 - **E-Government Penetration.** The report classified the Philippines as "emerging" because of the low Internet and PC penetration in government. This classification is likely to persist in the short to medium term because of the country's current fiscal problems.
 - **E-Government Use Type.** The report also classifies the Philippines as "emerging" as most government agencies use the Internet merely for emails. As detailed in the Digital Philippines report, there is so far, no transactional websites in the country.
 - **E-Government Organization.** The report, however, classified the country's e-government organization as "embedding" because of the existence of the Information Technology and Electronic Commerce Council (ITECC) and the

possibility of having a separate department for ICT. This exemplifies the government's commitment towards ICT development.

- Network Readiness Index (NI).** The NRI is an index developed by the Center for International Development (CID) of the Harvard University, to assess a country's preparedness and capacity to exploit ICT opportunities. The NRI is an overall index composed of two component indexes, a number of sub-indexes and several micro-indexes – one of which, is e-government (see Figure 1). Evaluating 75 nations that represent 80% of the world population and 90% of the world's economic output, the CID ranked the Philippines 57th in the e-government micro-index – just behind the Dominican Republic (56th) and ahead of Ukraine (58th) (see Appendix 4).

Figure 1. The Structure of the Networked Readiness Index



Source: www.cid.harvard.edu

The ECA Prepared the Philippines for an Improved e-Government. The e-commerce law failed to force the government to fulfill its e-government mandate by June 2002, but it laid down an adequate legal framework for achieving better e-government services. This is a major value added by the ECA to the country's e-government strategy, as such productivity and transparency enhancing measures were not previously pursued for fear that electronic documents were not legally binding.

- The ECA Empowered the Government to Upgrade its Frontline Operations.** The enactment of the ECA would make government to business (G2B) and government to citizen (G2C) transactions more efficient - similar to the services being provided by more advanced governments like Singapore. The

legality of electronic file transfers would allow government agencies to offer transactional services, which could already be incorporated in the 27 Philippine government websites (19% of all government websites surveyed) found by Digital Philippines to be in the advanced stages. This would allow Filipinos to process their requests entirely online, which would be particularly helpful for business permits, government licenses and government financial support applicants.

- **The ECA Enabled the Government to Improve its Backroom Operations.** Government to government (G2G) and government to employee (G2E) transactions would also be more efficient and transparent because the ECA allows the government to maintain public documents in electronic format. With the legitimacy of digital signatures, moreover, red tape will be minimized and one-stop shop operations will significantly improve. Passports, for example, will become faster to process when the Department of Foreign Affairs is able to download all documents pertaining to an application from its own office. Applicants will therefore no longer need to separately secure documents from the National Bureau of Investigation and the National Statistics Office.

Comparison of the Previously Mentioned Studies			
Study	Coverage	Strength of Study	Philippines' Rank /Assessment
UN-ASPAs	<ul style="list-style-type: none"> • 144 UN Member States 	<ul style="list-style-type: none"> • Incorporates human development factors in assessing e-readiness 	<ul style="list-style-type: none"> • Minimal e-government capacity
Digital Philippines Report	<ul style="list-style-type: none"> • 140 national government websites in the Philippines 	<ul style="list-style-type: none"> • Localized survey that makes use of the United Nations and the American Society of Public Administration (UN-ASPAs) methodology 	<ul style="list-style-type: none"> • Conclusions are enumerated in page 7
Global e-Government Survey	<ul style="list-style-type: none"> • 196 countries • 2,288 government websites 	<ul style="list-style-type: none"> • Global comparison of government services available on the Web 	<ul style="list-style-type: none"> • 80th
ASEAN e-Readiness Report	<ul style="list-style-type: none"> • 10 ASEAN Countries • Both internal and frontline ICT applications 	<ul style="list-style-type: none"> • Evaluation of Internal ICT applications/infrastructure • Evaluation of Policy and Regulatory aspects 	<ul style="list-style-type: none"> • "emerging" e-government penetration and use type; embedding e-government organization
Networked Readiness Index	<ul style="list-style-type: none"> • 75 countries 	<ul style="list-style-type: none"> • Use of Enabling Factors Component Index to measure potential in Networked Readiness, and not only actual Network Use 	<ul style="list-style-type: none"> • 57th

Source: www.digitalphilippines.org

VI. Note on Other E-Commerce Related Issues That Need Immediate Resolution

While the ECA was enacted primarily to establish the legal validity of electronic contracts, there are other e-commerce-related issues that the government needs to resolve, but were not addressed by the law. These concerns, which are already being discussed by more developed countries, have significant implications on other policy reform measures being implemented in the Philippines. Immediately addressing these concerns has

become essential, as the enactment of the law is already starting to propel e-commerce growth.

1. **Income Taxation of E-Commerce Players.** Legislators deliberately avoided the issue of taxation in the drafting of the ECA. The difficulty of determining the parameters involved in taxing e-commerce has convinced legislators to defer such discussions to a later time. This decision seems inconsistent with the government's thrust of minimizing investment risks. In as much as entrepreneurial decisions are largely affected by tax rates, legislators only compounded the uncertainties of investing in e-commerce by failing to categorically tax or exempt e-commerce transactions from taxes. It is also inconsistent with the government's goal of raising revenues. Most online merchants are able to circumvent tax laws because their transactions are difficult to monitor. It is unlikely that as e-commerce grows there will be a commensurate growth in revenue collections from online traders.
2. **Money Laundering (Cyber-Laundering).** The legitimacy given by the ECA to electronic contracts may impact negatively on the country's anti-money laundering and anti-smuggling efforts. The expected increase in the number of online transactions can make it extremely difficult for the government to monitor such prohibited acts. International institutions have already cited the threat of cyber-laundering in the light of more advanced electronic transactions. The wide use of credit cards, debit cards and other online payment facilities has facilitated these criminal acts.
3. **IPR Violations.** The prohibition against IPR violation in the law notwithstanding, copyright infringement is expected to increase as a result of the enactment of the ECA. Digitized products will be particularly vulnerable, considering that buyers would find it difficult to differentiate original materials from illegal copies. This is already being felt in more developed countries, where pirated copies of music software and games are being freely traded on the Internet.

VII. Conclusion and Recommendations

The ECA, by establishing the legality of electronic documents, has started to accelerate e-commerce development in the Philippines beyond its natural rate. The government should already build on this initial victory. Efforts to increase the demand for e-commerce should be deepened to build critical mass. The merits of e-commerce should be actively promoted across the country to raise the awareness level of Filipinos, beyond those living in the metropolitan areas. The issue of international jurisdiction should also be addressed to increase the demand for international e-trade. The government should eventually enter into the necessary treaties that would fulfill this goal, but as this would require considerable time and effort, it should in the interim, establish legal support desks in concerned departments like the DTI.

The country's e-government strategy should also be fulfilled, as this would allow the government to improve its backroom and frontline operations. A separate budget for ICT development should be allocated for government agencies in the annual General Appropriations Act, in order to ensure a more consistent ICT promotion. The national

government, moreover, should synchronize its entire ICT strategy to make e-government development more citizen-centered. The current approach is for each agency to pursue their own e-government plans based on their respective functions. A more coordinated approach would ensure that e-government development would link-up the various ICT strategies of those agencies that share similar thrusts and services.

It is finally recommended that the government take up all the e-commerce-related issues that were left hanging during the legislative discussions. Issues on taxation, money laundering and IPR, among other things, should be resolved in order to make e-commerce growth consistent with the government's other policy reform agenda.

Appendix 1: UN-ASPA Five Stages of E-Government

STAGE	UN-ASPA Stage Description	Specific Characteristics / Features to look for
Stage One: Emerging Web Presence	<ul style="list-style-type: none"> Sites serve as a public information source Static information on the government is provided FAQs may be found Contact information is provided 	<ul style="list-style-type: none"> Telephone numbers Postal address Email address Services offered Mandate, organizational structure, FAQs, related RAs
Stage Two: Enhanced Web Presence	<ul style="list-style-type: none"> Access to regularly updated information Central government homepage that may act as a portal to other departmental sites Useful documents that may be downloaded or ordered online Search features, e-mail and areas for comments are accessible 	<ul style="list-style-type: none"> Updated in the past 1.5 months Forms are available (html, word; sometimes zip, pdf) Search function / site map Message board / feedback form Newsletters or publications / purchase information
Stage Three: Interactive Web Presence	<ul style="list-style-type: none"> A national government website that frequently acts as a portal Users can search specialized databases Forms can be downloaded and / or submitted online Secure sites / passwords emerge 	<ul style="list-style-type: none"> Downloadable forms (pdf, zip) Specialized databases On-line forms submission Interactive elements e.g. chatroom / forum / discussion board User log-in and password (internal use or public)
Stage Four: Transactional Web Presence	<ul style="list-style-type: none"> Users can conduct complete and secure transactions online The government website allows users to customize a portal to directly access services based on specific needs / priorities Sites will be ultimately secure 	<ul style="list-style-type: none"> Public user log-in and password (NOT exclusive for internal use) Secure On-line payment Confirmation of request (e-mail confirmation / acknowledgement receipt) Display of security and privacy policy
Stage Five: Fully Integrated Web Presence	<ul style="list-style-type: none"> Country provides all services and links through a single central portal No defined demarcation between various agencies and departments All transactional services by government are available online 	<ul style="list-style-type: none"> All department information and services may be accessed through the department portal Cohesive interface covering all attached agencies, concerned agencies and all services Frontline services, fully-transactional online User may customize his department portal page Search engine encompasses attached websites

Source: www.digitalphilippines.org

Appendix 2: Top E-Government Countries Based on Global E-Government Survey

2001			2002		
Top E-Government Countries	Rate (%)	Rank	Top E-Government Countries	Rate (%)	Rank
United States	57.2	1	Taiwan	72.5	1
Taiwan	52.5	2	South Korea	64.0	2
Australia	50.7	3	Canada	61.1	3
Canada	49.6	4	United States	60.1	4
Great Britain	47.1	5	Chile	60.0	5
Ireland	46.9	6	Australia	58.3	6
Israel	46.2	7	China	56.3	7
Singapore	43.4	8	Switzerland	55.4	8
Germany	40.6	9	Great Britain	54.8	9
Finland	40.2	10	Singapore	53.5	10
ASEAN Countries	Rate (%)	Rank	ASEAN Countries	Rate (%)	Rank
Malaysia	39.0	16	Malaysia	51.5	21
Philippines	32.8	52	Thailand	44.0	74
Vietnam	32.8	53	Philippines	42.4	80
Brunei	32.7	56	Indonesia	40.8	95
Thailand	30.8	71	Vietnam	38.0	126
Indonesia	30.0	85	Brunei	35.5	153
Countries Ranked Ahead and Behind the Philippines	Rate (%)	Rank	Countries Ranked Ahead and Behind the Philippines	Rate (%)	Rank
St. Vincent	33.4	47	Tunisia	44.0	75
Mexico	33.1	48	Croatia	43.4	76
Hungary	33.0	49	Armenia	43.3	77
Egypt	33.0	50	Bosnia	42.7	78
Spain	32.8	51	Guyana	42.7	79
Philippines	32.8	52	Philippines	42.4	80
Vietnam	32.8	53	Hungary	42.3	81
Nepal	32.7	54	New Zealand	42.3	82
Georgia	32.7	55	Cape Verde	42.0	83
Brunei	32.7	56	Romania	42.0	84
Chile	32.6	57	South Africa	42.0	85

Source: Global E-Government, 2002

Appendix 3: Stages of Information Economy (as per the ASEAN-IBM Report)

The report measured the e-readiness of each ASEAN member based on the following main components of the e-ASEAN Framework Agreement:

1. **E-Society** - home and business users, education, workforce, localization and public access points,
2. **E-Commerce** – current environment, taxation, legal framework, payments and physical distribution,
3. **E-Government** – penetration, use type, organization and promotion,
4. **ICT Infrastructure** – communications infrastructure, Internet access services, end user devices and affordability, and
5. **Liberalizing Trade in ICT Goods and Services.**

Key overall characteristics of the 4 stages in the development of an information economy

Extending	<ul style="list-style-type: none">• Very high penetration of communication infrastructure (power, fixed line, cable TV, cellular)• Broadband internet access services gaining popularity• Very high penetration of terminal devices (PC / cellular phone)• Liberalized market condition for communication and ISP sector• Key Indicators: Teledensity > 40%, PC penetration > 20%
Embedding	<ul style="list-style-type: none">• High penetration of communication infrastructure (power, fixed line, cable TV, cellular)• High penetration of terminal devices (PC / cellular phone)• Mostly liberalized market condition for communication and ISP sector• Key Indicators: Teledensity 20-40%, PC penetration 5-10%
Evolving	<ul style="list-style-type: none">• Moderate to low penetration of communication infrastructure (power, fixed line, cable TV, cellular)• Moderate to low penetration of terminal devices (PC / cellular phone)• Mostly liberalized market condition for communication and ISP sector• Key Indicators: Teledensity 5-10%, PC penetration 2-5%
Emerging	<ul style="list-style-type: none">• Low penetration of communication infrastructure (power, fixed line, cable TV, cellular)• Low penetration of terminal devices (PC / cellular phone)• Generally closed market condition for communication and ISP sector• Key Indicators: Teledensity < 5%, PC penetration < 1%

Source: www.digitalphilippines.org

Key Characteristics and Challenges of E-Government

Key Characteristics

Key Challenges

Extending

- Very high PC and Internet penetration
- Government uses Internet for providing citizen services, internal work processing and e-commerce
- Very high proportion of government departments have websites, with high proportion of services online
- Separate ICT ministry

- Reduce complexity for citizen / business clients
- Improve quality of online services
- Improve use of ICT for government transformation

Embedding

- Moderate / high PC and Internet penetration in government
- Government uses Internet for providing citizen services, internal work processing
- High proportion of government departments have websites, with moderate proportion of services online
- Separate ICT ministry / department

- Develop roadmap to describe transformation strategies
- Gain executive buy-in and management of transformation
- Increase government web presence and utilization in service delivery

Evolving

- Moderate / low PC and Internet penetration in government
- Government uses Internet mainly for email
- Moderate proportion of government departments have websites, with moderate proportion of services online
- Separate ICT department

- Develop roadmap to describe transformation strategies
- Gain executive buy-in and management of transformation
- Increase government web presence and utilization in service delivery

Source: www.digitalphilippines.org

Appendix 4: Networked Readiness Index E-Government Sub-Index

Top Five Countries	Rank
Singapore	1
Finland	2
Iceland	3
Sweden	4
Estonia	5

ASEAN Countries	Rank
Thailand	41
Malaysia	45
Philippines	57
Indonesia	62
Vietnam	65

Lowest 25 Countries	Rank
Egypt	51
El Salvador	52
Panama	53
Greece	54
Bulgaria	55
Dominican Republic	56
Philippines	57
Ukraine	58
Venezuela	59
Russian Federation	60
Mauritius	61
Indonesia	62
Nigeria	63
Nicaragua	64
Ecuador	65
Guatemala	66
Sri Lanka	67
Vietnam	68
Trinidad and Tobago	69
Paraguay	70
Bolivia	71
Honduras	72
Bangladesh	73
Zimbabwe	74
Romania	75

Source: www.cid.harvard.edu