# A COMPARATIVE STUDY OF THE REGULATORY FRAMEWORK OF E-COMMERCE IN THE PHILIPPINES AND SINGAPORE

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## I. INTRODUCTION

The Philippines and Singapore are two member-states of the Association of Southeast Asian Nations (ASEAN) that were among the first in the region to enact specific legislation governing electronic transactions. Singapore's *Electronic Transactions Act 1998*[1] came into operation on July 10, 1998[2] while the Philippine Electronic Commerce Act[3] was signed into law by the Philippine President on June 14, 2000.[4]

This paper is a comparative study between the regulatory frameworks of e-commerce in the Philippines and in Singapore. It analyzes the salient provisions

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[1] An electronic version of the Act is available at http://www.cca.gov.sg/eta/index.html. (last visited August 1, 2001).

[2] The Electronic Transactions Bill was introduced in Parliament on June 1, 1998, passed on June 29, 1998 and came into force on July 10, 1998. *See E-Commerce/ Legal and Policy Environment, at* http://www.ec.gov.sg/policy.html (last visited 1 August 2001); *Background (of the Electronic Transaction Act), at* http://www.ec.gov.sg/1308199/helpdesk_bg.html.> (last visited August 1, 2001).

[3] Rep. Act No. 8792, otherwise known as *An Act Providing for the Recognition and Use of Electronic Commercial and Non-Commercial Transactions, Penalties for the Unlawful Use Thereof, and for Other Purposes.* An electronic version is available at http://www.rmagsaysay.com/ecomlaw.html (last visited August 1, 2001); also at <http://www.chanrobles.com/republicactno8792.htm> (last visited August 1, 2001).

[4] Armand Nocum, *Erap Signs E-Commerce Law, at* http://www.inquirer.net/issues/jun2000/jun15/news/news_10.htm (last visited August 1, 2001); Marichu Villanueva, *Hacking Now A Crime As Estrada Signs E-Commerce Bill, at* http://www.philstar.com/datedata/h15_jun15/gen10.htm (last visited August 1, 2001).

of each country's laws and how they impact on the growth of electronic transactions in these two nations.

## II. E-COMMERCE OVERVIEW

### A. THE PHILIPPINES

There are conflicting reports about the state of e-commerce in the Philippines. *Ebusinessforum.com*, the online publication of *The Economist*, reports that only about 1% of Philippine businesses are online. The report attributes the relatively low turnover of business to consumer (B2C) transactions to the low personal computer (PC) penetration and the low number of credit cardholders in the country (the credit card is the principal mode of payment for e-transactions). *Ebusinessforum* reports that in 1999, the volume of e-commerce transactions in the Philippines amounted to merely US$2 to 3 million, out of a worldwide volume of US$150 billion.[5]

The number of internet subscribers increased from 300,000 to 400,000 in the six months leading to June 2000. Considering that each Internet account is shared more or less by about four people, the total number of internet users in the Philippines could be around 1.6 million. For a population of between 76 to 77 million, 1.6 million internet access remains to be among the lowest in Asia.[6]

The report concludes that the "lack of a clear regulatory environment, poor telecoms infrastructure and limited Internet penetration means that e-commerce in the Philippines is still in a state of underdevelopment."[7]

In a more recent research study conducted by the Techknowledge Asia Group (TAG), an information technology market research and consulting firm based in Asia, it placed the Philippines to be among the leading e-commerce countries in the region, in apparent contradistinction to *Ebusinessforum*'s report. The TAG study also found that corporate websites are common among Asian companies. Hongkong came ahead of the other countries with an impressive 80% of the companies surveyed to have a corporate website. India came next with

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[5] *Doing ebusiness In... Philippines: E-Commerce*, *at* http://www.ebusinessforum.com/index.asp?layout=debi_ country_home&country_id=PH&country= Philippines&channelid=6&title=Doing+e-business+in+ Philippines, (last visited August 1, 2001). [Hereinafter, *Doing ebusiness*]

[6] *Id.*

[7] *Id.*

63%, Malaysia with 60%, and the Philippines with 54%. Surprisingly, Singapore weighed in with just over 50% of firms surveyed.[8]

In June 2000, coinciding with the signing of the Philippine Electronic Commerce Act, six of the country's largest companies[9] signed a memorandum of understanding to form an electronic procurement company managed by an independent professional group. This e-procurement firm would allow the public to purchase online a wide variety of products, ranging from office supplies to heavy equipment. The e-firm boasts that in view of minimal operating costs it would be able to market its products at the best competitive prices and quality. Small and medium enterprises are expected to avail themselves of bigger discounts from volume transactions through this e-consortium. This online procurement procedure is also expected to encourage more competition as the bidding process is open and accessible to the public.[10]

*Ebusinessforum*, however, believes that even though it appears that e-commerce opportunities in the Philippines are limited by the relatively small size of the domestic market and the even smaller consumer group that had the means to realize online transactions, the country represents significant possibilities for e-commerce growth. For one, there is enthusiasm among the populace to embrace e-commerce.[11] This is attributable to the country's high rate of literacy. In fact, more and more companies such as America Online and Andersen Consulting are shifting their so-called "back offices"[12] to the Philippines (and India) to take advantage of the high rate of computer graduates in the country. The country has an abundant supply of skilled, English-speaking employees who are easily trainable to work as software developers and programmers. Although the Philippines still scores quite poorly in the World Economic Forum's global competitiveness (which takes into account physical infrastructure, bureaucracy and corruption), when it

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[8] *Wiring Asia's companies*, *at* http://business-times.asia1.com.sg/4/fbzit/fbzit01.html. (last visited August 1, 2001).

[9] These companies are: Benpres Holdings (owned by the Lopez family), the Ayala Group, Philippine Long Distance Telephone (PLDT), JG Summit Holdings, Aboitiz Equity Ventures and United Laboratories

[10] Gil C. Cabacungan, Jr., *Ayala, 5 Others Form Online Purchasing Firm*, *at* http://www.inquirer.net/issues/jun2000/jun19/news/news_main.htm. (last visited August 1, 2001).

[11] *Doing ebusiness*, *supra* note 5.

[12] Back offices provide services to any client regardless of location and are found far from the principal place of business. The advances in electronic technology make the provision of these services from one location to a client any where in the world possible. For example, inquiries from AOL clients in North America may actually be received and responded to by an AOL employee based in the Philippines. This is made possible by the global nature of the Internet, another evidence of the wave of globalization that now grips commerce and industry.

comes to quality, cost and availability of skilled labor, the Philippines ranks highest together with India.[13] This was the conclusion reached by an annual survey of executives by the Political and Economic Risk Consultancy in Hongkong.[14]

### B. SINGAPORE

Singapore is one of the most advanced internet economies in the world and caters to all forms of e-commerce. This city-state has a high internet penetration rate of 620,000 internet dial-up accounts for a population of just over 3.2 million. The state's high per capita income together with a considerable usage of credit cards encourages e-commerce to flourish.[15]

In 1999, Singapore had business to business (B2B) e-commerce transactions amounting to US$598 million and was expected in the year 2000 to have delivered US$1.8 billion.[16]

The fast growth of e-commerce in Singapore is attributed primarily to its leaders' strong desire to make "e-knowledge" penetrate every aspect of Singaporean life.

It is interesting to note that as of April 1995, most government agencies in Singapore had not heard of the internet. Three months later, however, all 36 government ministries and organs of state had been connected by internet.[17] This clearly illustrates how quickly Singapore adapts to technological advances.

By August that same year, the first of the government web sites and an internet recruitment system for government positions were launched by the Prime Minister's office. Over a three-month period, six hundred job applications were sent via the internet. By 1996, just a year after its introduction in government,

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[13] G. Pierre Goad, *White Collar Gold Mine: AOL, Other Giants Ship Jobs to Asia*, FAR EASTERN ECONOMIC REVIEW, September 2, 1999, at 8.

[14] From 0 (as best) to 10 (worst), executives in Asia gave the following rankings: India, 2.0%; Philippines, 2.63%; China, 3.46%; Australia, 3.90%; Japan, 4.55%; Taiwan, 4.27%; Vietnam, 4.67%; South Korea, 4.72%; Malaysia, 4.83%; Singapore, 5.04%; Thailand, 5.08%; Hongkong, 5.10%; Indonesia, 5.85%, *Id.* at 10.

[15] *Doing ebusiness*, *supra* note 5.

[16] Siew Yaw Hoong, *S'pore's B2B E-Com To Hit US$54 B By 2004*, THE BUSINESS TIMES ONLINE EDITION, *at* http://business-times.asia1.com.sg/2/fbzit/fbzit02.html. (last visited August 1, 2001).

[17] Ernie Quah Cheng, Hai, *Rapid Deployment of the Internet by the Singapore Government*, *at* http://info.isoc.org/isoc/whatis/conferences/inet/96/proceedings/h3/he_3.htm. (last visited August 1, 2001).

the internet was being used by more than 1,500 government officials and employees and the government had some 50 web sites.[18]

To prove once again its innovation and dominance in electronic technology, Singapore was the first nation to have its national carrier, Singapore Airlines, test satellite-based e-mail in two of its Boeing 747 aircraft. Ran on a test basis in October 2000, the CyberCabin program is aimed primarily at business travelers and will allow passengers to view hundreds of thousands of web pages from a cache downloaded just prior to a flight's departure.[19]

## III. COMPARATIVE STUDY OF THE LEGISLATION ON ELECTRONIC TRANSACTIONS IN THE PHILIPPINES AND SINGAPORE

Both countries patterned their legislation after the United Nations Commission on International Trade Law (UNCITRAL) Model Law on Electronic Commerce (1996). Singapore, in addition, has adopted features from the United States draft Uniform Electronic Transactions Act.[20]

Section 1 of the Philippine legislation provides that the law shall be known and cited as the "Electronic Commerce Act" (hereinafter referred to as "ECA"). This is rather inaccurate considering that the Act's long title provides for the "Recognition and Use of Electronic Commercial and Non-commercial Transactions" including penalties for unlawful use of such electronic transactions and other purposes. The Act, therefore, is not limited to commercial transactions and encompasses both commercial and non-commercial electronic transactions.

Although the Philippine legislation does not define "electronic commerce", it may be assumed that the Philippines adopts the definition of the legislation's mother Act, the UNCITRAL Model Law on Electronic Commerce (UNCITRAL Model Law).[21] After all, section 37 of the Philippine Act provides that in interpreting the Act, due regard will be given to its international origin.

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[18] *Id.*

[19] Steve Creedy, *Email Reaches For The Sky*, *at* http://www.theaustralian.com.au/common/story. (last visited August 1, 2001).

[20] *Background (E-Commerce Act)*, *at* http://www.ec.gov.sg/13081999/helpdesk_bg.html. (last visited August 1, 2001).

[21] An electronic version of the UNICTRAL Model Law may be found at http://www.uncitral.org (last visited August 1, 2001).

The UNCITRAL Model Law defines electronic commerce to include any kind of information of a data message used in the context of commercial activities. The term "commercial" is given a wide interpretation so as to cover matters arising from all relationships of a commercial nature, whether contractual or not. Under the UNCITRAL Model Law, relationships of a commercial nature include, but are not limited to, the following transactions: any trade transaction for the exchange of goods or services; distribution agreements; commercial representation or agency; factoring; leasing; construction of works; consulting, engineering; licensing; investment; financing; banking; insurance; exploitation agreement or concession; joint venture and other forms of industrial or business cooperation; carriage of goods or passengers by air, sea, rail or road.[22]

At the outset, it is observed that the first difference between the regulatory frameworks of the two countries is that while the Singapore legislation comes into operation on the date it is declared to do so, the Philippine statute will become operable upon the enactment of the Act's Implementing Rules and Regulations ("IRR").[23]

In the interpretation of this Act, the Philippines mandates that due regard shall be given to the Act's international origin in order to achieve uniformity in the application of the law and in observance of good faith in international relations (section 37). The Act's Implementing Rules and Regulations, in affirming the statutory interpretation of the Act, specifies the UNCITRAL Model Law on Electronic Commerce as the Act's international origin. Both the Act and the IRR provide that the generally accepted principles of international law and convention on electronic commerce shall likewise be considered in the interpretation of the meaning of the provisions of the Act.

Like most, if not all, Commonwealth countries, in interpreting Singapore's legislation, one needs to look at the Explanatory Statement or

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[22] UNCITRAL Model Law on Electronic Commerce (1996) with additional article 5 is as adopted in 1998 and Guide to Enactment at http://www.jus.uio.no/lm/un.electronic.commerce.model.law.1996/doc.html. (visited August 1, 2001).

[23] Under the Philippine legal system, no statute, act or legislation is not implemented until the corresponding Implementing Rules and Regulations (IRR)are made by the appropriate government department or office tasked under the legislation of having the primary responsibility of implementing the provisions of the legislation. In the case of the E-Commerce Act, the IRR were jointly promulgated by the Department of Trade and Industry, Department of Budget and Management, and the Bangko Sentral ng Pilipinas (Central Bank of the Philippines).

Memorandum which accompanies the Act.[24] Unlike the Philippines, nowhere in the Singapore law or its explanatory statement is there a referral to interpreting the Act in accordance with its mother origin. Singapore's law, however, mandates that the provisions of its Electronic Transactions Act ("ETA") should be "construed consistently with what is commercially reasonable under the circumstances."

The Singapore ETA was a result of the recommendations contained in the report made by the Legal, Regulatory and Enforcement Study Group of the Electronic Commerce Hotbed (ECH) Policy Committee. Formed on February 21, 1997, the Study Group examined and made recommendations on the following issues:

- Digital signatures and the supporting legislation particularly issues concerning identity, authenticity and integrity of electronic transactions;
- Commercial crime and fraud in the internet;
- Jurisdiction, liabilities and responsibilities;
- Intellectual Property Rights in the internet including trans-border data flows; and
- Law enforcement.[25]

Taking heed of the Study Group's recommendations, Parliament enacted the Electronic Transactions Act on June 29, 1998. Parliament was guided by the following principles in enacting the ETA:

- The need to conform to international standards and international models in order to be integrated with the global e-commerce framework;
- Adopting a "light-touch" approach, thus avoiding over-regulation;

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[24] The Philippines, as a matter of legislative tradition, does not issue Explanatory Statements or Memoranda for laws, rules or regulations made.

[25] *Electronic Commerce Hotbed (ECH) Policy Committee: Legal, Regulatory, and Enforcement Study Group, Executive Summary and Final Report*, at http://www.lawnet.com.sg/freeaccess/ech/Legal_Study_Group1.htm. (last visited August 1, 2001).

- Flexibility and technological neutrality to adapt quickly to a fluid global environment; and

- Transparency and predictability.[26]

### A. PURPOSES AND OBJECTIVES

The Philippine Electronic Commerce Act ("ECA") aims to facilitate domestic and international dealings, transactions, arrangements, agreements, contracts and exchanges and storage of information through the utilization of electronic, optical and similar medium, mode, instrumentality and technology to recognize the authenticity and reliability of electronic documents related to such activities and to promote the universal use of electronic transactions in the government and by the general public (section 3).

The Singapore ETA sets the basic legislative framework for e-commerce and electronic transactions in Singapore. It removes existing legal impediments and boosts confidence for business to engage in e-commerce.[27]

Contrary to impressions of many people, the Philippine ECA is not limited in its application to commercial transactions as mentioned earlier. The law is intended to cover non-commercial transactions and applies to government dealings with the public and vice versa.[28]

Both countries emphasize the importance of facilitating electronic communications by means of reliable electronic records (section 3, ETA & ECA).

Singapore, however, noticeably underscores the importance of establishing a procedure to minimize the incidence of fraud in electronic transactions and promote procedures for authentication, integrity and reliability of electronic documents. Singapore sees the integrity and reliability of electronic documents as key to the success of e-commerce and has been developing a Public Key Infrastructure (PKI) using Certification Authorities (CAs) as Trusted Third Parties (TTP) to address security issues in electronic transactions.

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[26] *Salient Features of the Electronic Transactions Act 1998, at* http://www.cca.gov.sg/eta/salient_info.html. (last visited August 1, 2001).

[27] *Id.*

[28] Emmanuel C Lallana & Rodolfo Noel Quimbo, *The Philippine E-Commerce Law: A Preliminary Analysis, at* http://www.e-aseantf.org. (last visited August 1, 2001).

While Singapore puts a strong emphasis on secure digital signatures, the Philippines makes no reference at all to digital signatures.

### B. LEGAL RECOGNITION OF ELECTRONIC DOCUMENTS

With the ECA's enactment, information in the Philippines will not be denied validity or enforceability solely on the ground that it is in the form of an electronic data message purporting to give rise to such legal effect, or that it is merely incorporated by reference in that electronic data message (section 6).

Under the ECA, electronic documents are provided the same legal protection as text or paper-based documents. The law recognizes the principles of functional equivalence and media neutrality. Under functional equivalence, text or paper-based documents function the same way as electronic documents. Media neutrality means that one form is not given greater or lesser weight than the other. The recipient should be neutral as to the medium used, whether the traditional paper-based, or the more technologically advanced electronic form. This, in effect, avoids displacing or alienating members of the public who are not inclined to learn and/or apply new technology.

This also means that for evidentiary purposes, one may not be denied the right to submit electronic documents in connection with court proceedings. In fact, section 7 provides that "For evidentiary purposes, an electronic document shall be the functional equivalent of a written document under existing laws." In view of this, the Philippine Rules of Court will inevitably need to be updated to conform with the new Act.

Singapore, on the other hand, has amended its *Evidence Act* to allow the use of electronic documents as evidence in court.

Under section 6 of the ECA, the Philippines also recognizes the validity and enforceability of electronic messages that are attached to the main message or referred to in the main message through a hyperlink.

Section 7(a) provides that where the law requires a document to be in writing, that requirement is met by an electronic document if such e-document maintains its reliability and integrity and can be authenticated so as to be usable for subsequent reference.

This particular provision generated some concern among legal practitioners. Questions were raised as to how this could be reconciled with the requirement that certain documents be in writing under the Philippine Civil Code.[29]

The Civil Code contains various provisions that specifically require documents to be in writing such as:

- Article 1403 (2) (which codifies the English Statute of Frauds) requires the following agreements to be in writing in order to be enforceable: agreement that will not be performed within a year from its making; special promise to pay the debt, default or miscarriage of another; agreement made in consideration of marriage other than a mutual promise to marry (example: pre-nuptial agreements); sale of goods, chattels or things in action not less than 500 pesos; lease for more than one year; sale of real property or interest therein; representation as to credit of another person;

- Article 804: every will must be in writing strictly following the formalities required by articles 805 and 806 (e.g., signed by the testator and at least three witnesses at the end of every page, and acknowledged before a notary public);

- Article 1874: when a sale of real property or any interest therein is through an agent, the authority of the agent shall be in writing, otherwise, the sale is void.

- Article 1956: no interest shall be due unless it has been expressly stipulated in writing.

A *proviso* under section 7 of the ECA states that no provision of the Act shall apply to vary any and all requirements of existing laws on formalities required in the execution of documents for their validity.

There is a need to reconcile the requirements of the Electronic Commerce Act and the existing laws such as the Civil Code. Or are we to

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[29] J.J. Disini, *The Philippines on the Brink of New Internet Legislation*, *at* http://www.disini.ph/netlaw.htm. (last visited August 1, 2001).

construe that the ECA automatically amends all existing laws including the Civil Code or the Rules of Court insofar as they deal with issues dealt with in the ECA?

If this is so, it would appear that in all the situations described above, except the execution of a will, any contractual agreements entered into may be valid and enforceable even if it is in the form of an electronic document. In support of this view, it may be argued that "in writing" should not exclude "in writing in electronic form." To remove the apparent conflict in the laws, all other related laws should be amended as soon as possible. Singapore did this. The ECH Committee studied and made recommendations, not only on the proposed Electronic Transactions Bill but all other laws that may be affected by the new law such as the Evidence Act, Computer Misuse Act, Intellectual Property laws, among others. The laws affected by the new Electronic Transactions Act were amended around the same time as the ETA was introduced in Parliament.

The Philippine ECA also discusses the requirement of submission of documents in the original form. Where a statute requires information to be presented or retained in the original form, an electronic document or electronic data message will be sufficient so long as the e-document or message maintains its integrity and reliability and has remained complete and unaltered, apart from the addition of any endorsement and any authorised change including changes arising in the normal course of communication, storage and display (sections 10 and 11).

In Singapore, the legal recognition of electronic documents is provided under section 6 of its ETA. For an electronic record form to satisfy a requirement of law that certain documents, records or information be retained, the following conditions must be satisfied: (a) accessibility of the information in the electronic document; (b) retention of the electronic record in which it was originally generated, sent or received; (c) identification of the origin and destination of the electronic record and the date and time when it was sent or received; and (d) consent of the government department or ministry, organ of State or statutory corporation which has supervision over the requirement for the retention of the records.

Singapore exempts certain matters from the application of electronic records, e-signature and e-contracts (section 4). The exemptions include:

- creation or execution of a will;
- negotiable instruments;

- creation, performance or enforcement of an indenture, declaration of trust or power of attorney except constructive and resulting trusts;
- contract for the sale or other disposition of, conveyance or the transfer of immovable property or any interest therein; and
- documents of title.

This means that a will, any negotiable instrument, a contract of sale of real estate or any conveyance, transfer or any disposition of real property in Singapore may be denied legal effect, validity or enforceability if the document is in an electronic record or form.

Unlike Singapore, the Philippines does not specify matters that are exempt from the application of the ECA.

### C. ELECTRONIC AND DIGITAL SIGNATURE

The Philippine ECA declares that an electronic signature on the electronic document shall be equivalent to the signature of a person on a written document. This is, however, subject to the following conditions:

- there is an existing prescribed procedure to prove that the signature is an electronic signature; and
- such reliable procedure identifies the party to be bound and indicates the party's access to the electronic document necessary for his/her approval (section 8, ECA).

The Philippines defines "electronic signature" to refer to "any distinctive mark, characteristic and/or sound in electronic form, representing the identity of a person and attached to or logically associated with the electronic data message or any methodology or procedures employed or adopted by a person and executed or adopted by such a person with the intention of authenticating or approving an electronic document" (section 5 (e), ECA).

An electronic signature is not a handwritten signature that is scanned or graphically imprinted on the electronic document. An electronic signature may be in the form of another message, a distinctive mark or a methodology or

procedure which identifies the sender of the message and signifies the sender's approval.[30]

The ECA further provides that proof of the electronic signature shall give rise to the rebuttable presumption that the e-signature is the signature of the person to whom it correlates and that the e-signature was affixed by that person with the intention of signing or approving the electronic data message or electronic document (section 9). This means that when John Doe's signature is attached to an electronic document, one may presume that such is John Doe's signature and that he was the one who signed it with the intention of signing or approving the document. The presumption is *prima facie* and may be rebutted with proof to the contrary.[31]

The IRR provides for the method of authenticating electronic documents, data messages and signatures. This method prescribed under the IRR shall continue to apply until the Supreme Court (which is the country's highest court vested with the power of final interpretation of its laws) shall have so provided by appropriate rules (section 15, IRR).

The Philippine law does not have any provision on digital signatures.

Singapore, on its part, differentiates between "electronic records and signature" (Part II, ETA) on the one hand, and "secure electronic records and signature" (Part V, ETA), on the other.[32]

An "electronic signature" refers to "any letters, characters, numbers or other symbols in digital form attached to, or logically associated with an electronic record, and executed or adopted with the intention of authenticating or approving the electronic record" (section 2, ETA). An electronic signature satisfies the requirement of a signature (with exceptions relating to signatures required in creating or executing a will, negotiable instruments, indentures, declaration of trusts except constructive and resulting trusts, sale, conveyance, transfer or disposition of immovable property or any interest in such property, and documents of title (section 4)) and may be proved in any manner (section 8).

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[30] *Id.*

[31] *Id.*.

[32] Internet Law and Policy Forum, *Survey of International Electronic and Digital Signature Initiatives*, *at* http://www.ilpf.org/digsig/survey.htm. (last visited August 1, 2001).

It is noteworthy that while the Philippines allows "sound in electronic form" and even the "methodology or procedure" employed to authenticate or approve an electronic document to form part of electronic signature, Singapore does not include the same.

A "secure electronic signature," on the other hand, is either a digital signature that complies with the ETA's digital signature standards or a "commercially reasonable security procedure agreed to by the parties" (section 16). A secure electronic signature must be:

- unique to the person using it;
- capable of identifying the person;
- created through a means or manner under the sole control of the person using it; and
- is linked to the electronic record to which it relates in a manner such that if the record was changed, the electronic signature would be invalidated. (section 17).

Documents that are authenticated by a secure electronic signature are entitled to a presumption that the secure electronic record has not been altered. In other words, the record with the secure electronic signature bears a presumption of integrity, unless there is evidence to the contrary (section 18).

It is significant to note that the Act does not limit the presumption of integrity to such secure electronic signatures that are confirmed by Certification Authorities (CAs). The presumption also applies to "commercially reasonable security procedure agreed to by the parties" (section 16) and that satisfies the general criteria for uniqueness, identity, security and integrity (section 17).

As mentioned earlier, Singapore has been developing a Public Key Infrastructure (PKI) to facilitate the use of digital signatures. Under PKI, the Certification Authority (CA) certifies that a given public key is associated with a given individual. A CA may perform a face-to-face verification of the individual before such a certification is given, in the form of a digital certificate. This certificate can then be used to confirm the public key of an individual and verify

the signature that is generated by the individual. Netrust is the first CA to issue keys for digital signatures in Singapore.[33]

Being in a position of trust, the CA has to be subjected to certain standards and controls in order to generate public confidence in the services it offers. The ETA proposes a voluntary licensing scheme. Only licensed and approved CAs will enjoy the benefits of the ETA for signatures generated from the certificates issued. The exception to this is where parties agree to be bound by signatures created by a commercially reasonable procedure.[34]

The ETA provides for the appointment of a Controller of CAs. The Controller will, amongst other duties, license, certify, monitor and oversee the activities of the CAs. The setting up of the administrative structure for the Controller will be the responsibility of the National Computer Board, under the IT Security Office.[35]

### D. ELECTRONIC CONTRACTS

Another area of divergence between the e-commerce laws of the Philippines and Singapore is the treatment of electronic contracts.

As mentioned earlier, Singapore specifically provides that Part II (Electronic Records and Signature Generally) and Part IV (Electronic Contracts) shall not apply to any law requiring writing or signatures to the creation or execution of a will, negotiable instruments, indenture, declaration of trust (except constructive and resulting trusts), power of attorney, sale/transfer/conveyance of immovable property or interest therein, and documents of title.

As to all other forms of contract in Singapore, the electronic form will not be denied legal effect, validity and enforceability (section 11).

In the Philippines, section 16 of its ECA provides that, unless there is an agreement to the contrary, "an offer, the acceptance of an offer and such other elements required under existing laws for the formation of contracts may be expressed in, demonstrated and proved by means of electronic data message or

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[33] *Salient Features of the Electronic Transactions Act 1998, at* http://www.cca.gov.sg/eta/salient_info.html. (last visited August 1, 2001).

[34] *Id.*

[35] *Id.*

electronic documents." The Act further states that "no contract shall be denied validity or enforceability on the sole ground that it is in the form of an electronic data message or electronic document, or that any or all of the elements required under existing laws for the formation of the contracts is expressed, demonstrated and proved by means of electronic documents." As the law does not provide for matters that would be exempt from the provision of section 16, it appears that all forms of contracts including disposition or conveyance of immovable property, are subsumed under the law and therefore shall not be denied validity and enforceability on the sole ground that they are in electronic form. This poses the question whether ECA has effectively amended certain provisions of the Civil Code which require contracts to be in writing.

The Implementing Rules and Regulations, however, declare that the ECA does not vary any and all requirements of existing laws and the relevant judicial pronouncements respecting formalities required in the execution of documents for their validity. When a particular law requires that a contract be in some form in order that it may be valid or enforceable or that a contract is proved in a certain way, that requirement is absolute and indispensable (section 12, IRR).

Section 12 of the IRR fails to remove the ambiguity of the law. A judicial pronouncement on this matter would be necessary.

The ECA adopts an "opt-out" position which means that contracting parties may contract-out of the provisions of the ECA in the formation of contracts.

The Philippine ECA was also formulated to apply to actions concerning contracts of carriage of goods. Under the law, airway bills, bills of lading, receipts, confirmations, sales, notification of terms and conditions of contract, sales, transfers of ownership, authority for release of goods and other documents related to carriage of goods by land, sea or air may be done or transacted in electronic form (section 25, ECA).

### E. PENALTIES

The Philippine ECA penalizes by fine and/ or imprisonment certain computer-related offences, namely:

1. Hacking or Cracking, referring to unauthorized access into or interference in a computer system/server or information and

communication system; or any access in order to corrupt, alter or steal or destroy using a computer or other similar information and communication devices, without the knowledge and consent of the owner of the computer or information and communications system. The prohibited conduct includes the introduction of computer viruses and the like, which results in the corruption, destruction, alteration, theft or loss of electronic data messages to electronic document. The minimum penalty imposed by law is a fine of P100,000 (approximately equivalent to A$4,000) and the maximum fine is commensurate to the damage incurred. Additionally, the conduct attracts a mandatory imprisonment of six months to three years;

2. Piracy which includes the unauthorized copying, reproduction, dissemination, distribution, importation, use, removal, alteration, substitution, modification, storage, uploading, downloading, communication, making available to the public, or broadcasting of protected material, electronic signature or copyrighted works, including legally protected sound recordings or phonograms or information material on protected works, through the use of telecommunication networks such as but not limited to the internet, in a manner that infringes intellectual property rights. This conduct is punished by a minimum fine of P100,000 (approximately equivalent to A$4,000) and the maximum fine is commensurate to the damage incurred. Additionally, the conduct likewise attracts a mandatory imprisonment of six months to three years;

3. Violations of the Consumer Act (Republic Act No. 7394) and other relevant or pertinent laws through transactions covered by or using electronic data messages or electronic documents. Such violation incurs the same penalties as in those laws;

4. Other violations of any provisions of the ECA shall be penalized with a maximum penalty of one million pesos (approximately A$40,000) or six years imprisonment.

Singapore, on the other hand, has a separate legislation which punishes computer-related offences, the *Computer Misuse Act*. A Computer Misuse (Amendment) Bill was introduced and passed in Parliament at the same time as the ETA in June 1998. The amended Act, which came into force on 1 August 1998, takes a more sophisticated approach in penalising computer abuses. It

provides for enhanced penalties proportionate to the different levels of potential and actual harm caused. It also addresses new potential computer abuses such as denial or interruption of computer services and unathorised disclosure of access codes.[36]

### F. ELECTRONIC TRANSACTIONS IN GOVERNMENT

In both countries, all departments or ministries of government, organs of state or statutory corporation (Singapore ETA, section 47), bureaus, offices and agencies of government including all government-owned and controlled corporations (Philippine ECA, section 37) shall accept the creation, filing or retention of documents in electronic form; issue permits, licenses or approval in electronic form; make and accept payments including issuance of receipts of such payments through electronic documents.

Singapore is one of the world's most advanced countries in applying IT developments to government transactions. A global survey by Andersen Consulting which assessed 20 government websites worldwide showed Singapore to be second to the United States of America in being internet-savvy and offering the most online services to the public.[37]

Singapore had an early appreciation of the great benefits that advances in technology could offer. It was in 1991 when Singapore first encountered the internet when the National University of Singapore and the National Science and Technology Board jointly set up the Technet Unit, Singapore's first Internet Service Provider (ISP). The main object of the project was to provide the local research and development (R&D) community with internet access to facilitate communication with their counterparts in other parts of the world. Access was strictly limited to organizations with R&D interests.[38]

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[36] *Legal and Policy Environment, at* http://www.ec.gov.sg/policy.html. (last visited August 1, 2001)

[37] *Singapore Second To US In Online Govt Services*, THE STRAITS TIMES, June 16, 2000, *available at* http://www.contactsingapore.org.sg/news/jun/jun00_13.htm. (last visited August 1, 2001) The top five governments are: USA, Singapore, Australia, Canada and France.

[38] Ernie Quah Cheng Hai, *Rapid Development of the Internet by the Singapore Government, at* http://info.isoc.org/isoc/whatis/conferences/inet/96/proceedings/h3/h3_3.htm. (last visited August 1, 2001).

By 1993, more and more organizations had began requesting access to the internet. By 1994, around 50 organizations in the R&D community, the academe and a few commercial organizations were connected.[39]

In 1994, the Singapore government completed a detailed study on the internet and concluded that it should be made available to all organisations and the general public. Singapore's national website, the Singapore Infomap (http://www.sg) was launched in March 1995. The Singapore government's website (http://www.gov.sg) was launched in April 1995. By 1996, the internet was made available to the entire civil service via the Government Resources on Internet Network (GRIN).[40]

In 2000, the Singapore government unveiled "The Singapore E-Government Action Plan." The main aim of the Action Plan is to ensure that citizens are able to access more and more public services, delivered online, anytime, anywhere.[41]

One and a half billion Singaporean dollars (S$1.5 billion) has been set aside to support the programmes in the e-Government Action Plan over the next three years.[42]

Six strategic programmes were identified to achieve the e-Government vision. These are:

1. Knowledge-based Workplace: Public servants at all levels must be infocomm literate and tap the power of infocomm technology to improve work processes, service delivery and teamwork;

2. Electronic Services Delivery: All public services which are suitable for electronic delivery or can tap electronic channels to improve work processes should be re-engineered accordingly;

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[39] *Id.*

[40] *Id.*

[41] *Strategy 1-- Pushing The Envelope Of Electronic Service Delivery*, The Singapore E-Government Action Plan.

[42] *Conclusion*, The Singapore E-Government Action Plan; *Toh Han Shih, S'pore To Spend $1.5b Over Three Years To Build Up E-Govt: Tony Tan*, THE BUSINESS TIMES, June 7, 2000, *available at* http://business-times.asia1.com.sg/3/news/nfrnt04.html. (last visited August 1, 2001).

3. Technology Experimentation: This will enhance Singapore's capability to adapt to rapidly changing infocomm trends and reduce the probability of committing large investments in the wrong decisions;

4. Operational Efficiency Improvement: Up-to-date hardware, work engines and data processing form the backbone of an efficient and effective public sector;

5. Adaptive and Robust Infocomm Infrastructure: The rapid convergence of telecommunications, broadcasting and information technology has opened up possibilities for a networked government at a lower cost. A well-designed, reliable and scalable infrastructure is critical for supporting egovernment initiatives.

6. Infocomm Education: Infocomm education programmes will go beyond learning about systems and applications to harnessing infocomm technologies to improve work processes and service delivery.[43]

One aim of Singapore's ETA is to promote a culture of use of the electronic medium in the public sector. The ETA contains an omnibus provision for government departments and statutory boards to be able to accept electronic filing without having to amend their respective Acts. It also allows public offices and agencies to issue permits and licences electronically. This is on an "opt-in" basis so that those agencies that are not yet ready to go "paperless" are not compelled to do so.[44]

Although the Philippines has quite a lot of ground to cover to catch up with Singapore's e-commerce developments, there are certainly efforts to catch up with its more internet-savvy neighbours in the ASEAN region.

In February 1998, under the administration of former Philippine President Fidel V. Ramos, Executive Order No. 468 created the Electronic Commerce Promotion Council (ECPC). It is a coordinating body for the promotion and development of electronic commerce in the country. In 2000, the ECPC formed five task forces, namely: Infrastructure and Technology; Legal; Financial; Manpower; and Niche. The task forces aim to assist in the formulation

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[43] The Singapore E-Government Action Plan.

[44] *Salient Features of the Electronic Transactions Act 1998, at* http://www.cca.gov.sg/eta/salient_info.html. (last visited August 1, 2001)

of an e-commerce strategy known as "ISP.com" or the "Internet Strategy for the Philippines."[44] Also during the Ramos administration, the National Information Technology Plan, known as "IT21", was approved by Cabinet and adopted by a multisectoral IT forum.[45]

The Philippine Information and Infrastructure (PII), a project of the Department of Transportation and Communications was also established. The PII is the overall network that would integrate the electronic links of the government and private sectors.[46]

When Joseph "Erap" Estrada assumed the presidency, he signed Administrative Order 332 which created RPWeb, based on House of Representatives Resolution 890.

RPWeb is aimed at electronically linking all government agencies via the internet. It was the government's strategy to improve the dismal results of an earlier survey which showed that less than a mere 3% of about 8,000 offices of the government offices nationwide were connected to the internet.

Mr. Estrada also promulgated three controversial Executive Orders.

Executive Order No. 34 provides for the restructuring of the National Computer Center (NCC). It grants more powers and wider jurisdiction to the NCC over national information technology concerns. It also vests more power to the NCC Managing Director who by virtue of the EO, has adopted the title "Director-General", with the rank of Cabinet Undersecretary.[47]

Executive Order No. 35 directs the NCC to design and build an integrated government information infrastructure (GII). The Government-Wide Information Super Highway (G-Wish) was created under the GII program. G-Wish seeks to make all existing computer systems of government bodies compatible. Various IT sectors were skeptical about G-Wish as it was seen to replace earlier internet projects like the RPWeb. Unlike the RPWeb which had

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[44] J.J. Disini, *The Philippines on the Brink of New Internet Legislation*, *at* http://www.disini.ph/netlaw.htm. (last visited August 1, 2001)

[45] Joey G. Alarilla, *Gov't Network Gets Tangled*, PHILIPPINE DAILY INQUIRER, July 19, 1999.

[46] *Id.*

[47] Joe G. Alarilla, *Estrada 'Waylaid' Into Signing IT Laws, Says Computer Society*, PHILIPPINE DAILY INQUIRER, June 28, 1999

extensive public consultation and given approval by a multisectoral IT forum, G-Wish did not undergo a similar consultation process.[48]

The most controversial EO of the three, however, was Executive Order No. 37 which gives the NCC the power to conduct and manage the procurement process of government agencies' IT requirements. The private sector expressed fear that this EO opens opportunities for corruption and could delay, instead of facilitate or fast-track, the implementation of IT projects in government.[49]

After assuming the presidency on 20 January 2001 following a dramatic ouster of Mr. Estrada through what is now dubbed as "People Power II", President Gloria Macapagal-Arroyo, outlined her three-point information and communications technology (ICT) strategy. The new President said that her administration's ICT strategy will focus on:

1. Building the Physical Infrastructure: She stressed that a good physical infrastructure for interconnecting telephones and computers to the internet will contribute to the lower cost of access to information technology.

2. Enhancing the Policy and Legislative Environment for ICT Promotion: She acknowledges the lack of laws addressing security issues and convergence in the new E-Commerce Act.

3. Developing a Pool of Certified ICT Professionals: She recognises the need to focus the government's human resource development activities on developing a certified pool of ICT professionals. For this, there is a need to improve basic education in science and math.[50]

There is a clamor by the IT groups in the Philippines for the removal of the ICT from the Department of Transportation and Communications and the creation of a new government agency to be called the Department of Information and Communications Technology that would take charge of all IT programs and

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[48] Alarilla, *supra* note 45.

[49] Alarilla, *supra* note 47.

[50] Erwin Lemuel G. Oliva, *Macapagal Charts 3-Point Information And Communications Technology Agenda*, Philippine Daily Inquirer Interactive, January 25, 2001.

initiatives. The new President, however, does not appear to warm up to the idea.[51]

The Electronic Commerce Act mandates that within two years of the effectivity of the Act, RPWeb should be operational by installing electronic online network to facilitate the open, speedy and efficient electronic online transmission, conveyance and use of electronic data messages or documents amongst all government departments agencies, bureaus and offices and allowing universal access by the general public (section 28).

In practical terms, the Philippines has a long way to go to be comfortably called "internet savvy." A strong leadership with the proper appreciation of and the political will to put information and communications technology at the forefront of its agenda is badly needed. The new President has correctly identified the needs of the country in the ICT field. Being an economist (she has a PhD in economics), she would have a more profound appreciation of the great benefits that e-commerce brings not only to business but to the country as a whole. The events of the past months, focussed mainly on the impeachment trial of Mr. Estrada, practically put the whole government on a limbo and the nation to a standstill. With that behind, however, the Philippines is now expected to get back to the business of recouping lost grounds.

## IV. ASEAN DIGITAL DIVIDE

The Philippines and Singapore are but two examples of the varying levels of IT developments in the Southeast Asian Region. The region's 10-member nations (Brunei, Cambodia, Indonesia, Laos, Malaysia, Myanmar, Philippines, Singapore, Thailand and Vietnam) are as diverse culturally, economically and technologically. Their membership, however, in this regional organisation manifests a unified desire to progress economically as a region.

One of the significant achievements of ASEAN's Informal Summit[52] last year in Singapore was the signing by the ASEAN Leaders of the e-ASEAN Framework Agreement. The agreement implements an action plan to enhance

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[51] Erwin Lemuel G. Oliva, *President Arroyo Asked To Remove IT From DOTC Jurisdiction*, Philippine Daily Inquirer Interactive, January 26, 2001.

[52] Annual Meeting participated by all Heads of Government of ASEAN.

the information and communication technology (ICT) sector in ASEAN and promote regional connectivity.[53]

ASEAN has also created a task force to examine the physical, legal, logistical, social and economic infrastructure needed to create the basis for ASEAN's competitiveness in the digital and electronic economy.[54]

It is acknowledged that there is a need to simultaneously address or, at least, in a coordinated manner, the elements necessary to effectively use ICT. These elements include infrastructure, policies and regulatory environment that encourage electronic commerce, skills building and internet literacy.[55] Under the aegis of the e-ASEAN Agreement and the activation of the e-ASEAN task force, it is hoped that ASEAN would be able to achieve its objective of seamlessness in the ICT world, a region of homogeneity where businesses, goods and services move freely for the benefit of its peoples.

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[53] *ASEAN Signs E-Agreement To Bridge 'Digital Divide, at* http://www.inquirer.net/infotech/nov2000wk4/info_2.htm. (last visited August 1, 2001)

[54] *Id.*

[55] *Id.*