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THE STUDY OF ASEAN'S READINESS ON IMPLEMENTING SINGLE WINDOW: PERSPECTIVE FROM THE DEVELOPMENT OF MALAYSIA'S INFORMATION TECHNOLOGY

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Abstract:–
ASEAN members have worked for generations to enhance the Asia economics. Among the 10 nations from ASEAN, some have formed their Single Window. In year 2007, ASEAN leaders had agreed to form a consortium for free movement of goods, capital and investment by year 2015. To achieve this objective, all members are needed to collaborate and make sure their national Single Window is well executed before enter into ASEAN Single Window. However, the differences in IT infrastructure, institutions, IT literacy, etc. within and among 10 members are obstacles for the Single Window. This study is important to evaluate Malaysia's information technology development on the readiness for ASEAN Single Window. It can be evaluated by comparing among the ASEAN members. Furthermore, European Union has been reviewed to determine the requirements for ASEAN Single Window.

Keywords: - *Single Window, Information Technology, Malaysia's readiness, European Union*

I.INTRODUCTION

National single window is a virtue system established for the trade facilitation to increase the efficiency of the government delivery system and provides benefits to all members of the trading parties ("Malaysia Implement Single," 2010). It is served as a single point of entry for the submission of data and information to avoid repeated duplicate of resources which can fasten the trade system, reducing processing time and boundaries' barriers. One of the major issues is the informational technology infrastructure and ICT readiness. In order to implement ASEAN Single Window, all governments must enhance the flow of information which related to trade through ICT. This is the critical way to link all ASEAN members together to maximize the data flows and make sure faster, easier and lower international trading cost (Beth, Robert & William, 2007). Many studies had shown that the informational technology will affect the business buying behavior especially in business to business markets because it involves information sharing (Power, 2005).

In ASEAN, IT has already significantly affected global business buying behavior and this influence will keep growing for the implementation of ASEAN Economic Community (Roy & Sivakumar, 2007). However, the policy to encourage investment in ICT is different in ASEAN countries. In order to have the effective ICT system, government need to invest in the nation telecommunication infrastructure (Alshawi & Salleh, 2005). One example is Indonesia government has decided to terminate the spending on IT infrastructure after facing the financial crisis (Green, 2008). Besides, ICT is becoming more important to trade facilitation. It serves as a mechanism to make sure the free and fair trade, international standard data sharing and process transparency (Kimberly, 2007). Furthermore, the electronic payment, electronic signatures and security need to be considered as well since the differences in IT infrastructure among ASEAN members (Omar & Suh, 2006).

II. LITERATURE REVIEW

European Union has been reviewed to determine the requirements for ASEAN Single Window. After that, critical evaluation on Malaysia's IT infrastructure development and the readiness on implementing ASEAN Single Window were discussed.

2.1 Evaluation on European Union's Conditions on Single Window

European Union (EU) agrees that the ICT infrastructure is a necessary condition for single window implementation which enable cross border exchange date. Europe has been recognised for strong traffic control and effective network management (European Commission, 2012). In order to have good online trading facilitation, European Union has implemented a lot of policies to make sure the high IT education, internet usage and invest in IT infrastructure (Bronwyn, Francesca & Jacques, 2012). However, the relationship between information communication technology and economic growth is needed to consider in European Union because it will affect the information handling among the members (Bart & Marcel, 2005). There is positive relationship between ICT and economic growth (Naercio, Rupert & Simon, 2011). In order to have good information handling process in EU, each member must invest in IT infrastructure to make sure the smooth of import and export transaction through single window.

TABLE I shows the EU internet usage in 2006-1010. The share of households with broadband internet access has doubled since 2006. The citizens in each country of EU had increased the usage in e-shopping, egovernment, e-security and other trading. Besides, the increase in internet access is involved majority of EU members. It can lead to an effective single market system because all members are involved in the increased of internet adoption (Eurostat, 2010).

TABLE I

Internet access and broadband internet connections by households, EU27

Year	2006 (%)	2007 (%)	2008 (%)	2009 (%)	2010 (%)
Internet access	49	54	60	65	70
Broadband connection	30	42	49	56	61

Source: Anna, L., & Heidi, S. (2010). Eurostat, data in focus, Industry, trade and services. Eurostat. *European Union*. Retrieved from *http://epp.eurostat.ec.europa. eu/cache/ITY_OFFPUB/KS-QA-10-050/EN/KS-QA-10-050EN.PDF*

Besides, according to the survey done by Anna and Heidi (2010), almost 60% of internet users in the EU27 are shopped online. It has proven that most of the EU citizens prefer online trading.

2.2 Limitation on Information Processing on European Union's Single Window

Elder generation users, technical difficulties and ethical issue were discussed.

2.2.1 Elder Generation Users

Research shows that the elder generation users consist of large portion in EU markets. One of general problem faced by older people is they are not willing to accept new technologies, especially related to the online trading (Dickinson & Gregor, 2006). They will prefer to shop in physical shops instead of through e-commerce. This may due to their perception and education level.

Besides, 48 % of elder users who are over 50 feel that their needs are not sufficiently met by ICT services due to the lack of awareness (European Commission, 2006). They usually have limited knowledge of advantages of ICT. In order to have the effective online trading process, users are required to have certain level of IT knowledge and understanding (McLean, 2011). The complexity of ICT in monitoring of online trading may become an obstacle to elder generation.

2.2.2 Technical Difficulties
The accessibility and user friendliness in ICT seems not workable on older generation (Bruce, Eardley & Goggin, 2009). EU tends to overlook the older users' needs. Survey has shown that many older people in EU do not have basic assess to communication networks, such as broadband and other information technologies (Kirsti, Marcelino, Norbert & Yves, 2008). One of the reasons is the governments less providing trainings and awareness for them. Besides, the motivation from governments to encourage the older people understands the needs of ICT are an important solution but it is not practising in most of the EU countries.

2.2.3 Ethical Issue
Ethical issue is one of the information handling limitations in EU. There are no specific rules and regulations for ethics governance in ICT, such as the human rights (CORDIS, 2011). There has been an increase in the importance of ethical issues related to ICT in online trading in recent years and implemented several codes (McLean, 2011). However, it is still not effectively practice by the members.

2.3 Best Practices in Informational Technologies on EU's Single Window Safe Harbor and Recommendation 33 were discussed.

2.3.1 Safe Harbor
To make sure the standard data protection in EU and avoid the transfer of privacy personal information to non-EU countries, United State government and EU has developed a framework called safe harbor. It needs a good ICT technical knowledge and infrastructure to monitor. According to European Commission, EU is having good standard ICT setting to facilitate the safe harbor with Unites State (UNINOVA, 2007).

2.3.2 Recommendation 33
Recommendation 33 was implemented in year 2005 for the recommendation and guideline on establishing of UN Economic Commission as a single window (Economic Commission, 2005). Single window can be implemented through Single Automated System and Automated Information Transaction System. This is an ICT system to collect and disseminate of information from all EU members. It will allows the member submit data once and process, then distribute the date to the authorities (Johan, 2011).

For the Automated Information Transaction System, the EU members can submit electronic trade declarations to different authorities to get the approval for processing in a single application. The approvals will be sent electronically from government to the trader. In this process, the possibilities for corruption can be limited and minimized (Johan, 2011).

III. EVUALATION & ANALYSIS

3.0 Evaluation on Malaysia's IT infrastructure on the Readiness for ASEAN Single Window
ASEAN leaders consists of Singapore, Malaysia, Thailand, Brunei, Laos, Cambodia, Vietnam, Philippine, Indonesia and Myanmar. Every member needs to make sure its particular national Single Window is matured and well ready before evolves into ASEAN Single Window. When implemented ASEAN Single Window, it is not just about Malaysia but involve all ASEAN parties. When evaluate the whole societies, Malaysia and other ASEAN countries still need to work hard toward the. Reasons and explanations will be discussed below.

3.1 Restrictiveness and Openness of Foreign Direct Investment (FDI)
For the restrictiveness and openness of the Foreign Direct Investment (FDI) policy for ASEAN countries which allow the foreign investment in ICT, it is common that foreigners are facing obstacles when invest in many developing countries even though their laws are allowed (Ando, Ito & Urata, 2007). A survey conducted by Japan Machinery Center for Trade and Investment (JMC) shows that the FDI policy in Singapore is very open, Philippines, Thailand, Indonesia and Cambodia are relatively open, while Myanmar, Malaysia, Brunei, Lao are closed (Ando & Urata, 2009).

3.2 Information Technology Literacy Development among ASEAN Members
Information technology literacy is very important in the implementation of ASEAN single window. It is a set of skills needed to find, retrieve, analyze and use information for trading purpose. Single window system will be monitored by ICT infrastructure from every member. It is very important to make sure all countries have sufficient IT literacy, professionals and human capital to facilitate the system. Strong information technology literacy enables the member aware of resources available; know how to facilitate online trading, evaluate the ecommerce and communicate the information conscientiously and ethically (Diljit & Tan, 2008).

However, the different in IT literacy among the ASEAN members may cause the difficulties to implement the single window. The reason is those countries in poor IT literacy and infrastructure may not ready for online trading and facilitation (Farrokh, 2010). IT literacy can be seen from the Internet users in the country, numbers online buying and others. Among ASEAN countries, Malaysia is one of the most well-known countries in terms of internet penetration, which ranked as 3rd in year 2012 quarter 2 (Internet World Stats, 2012). TABLE II shows the ASEAN internet user. Based on the figure, the difference in percentage of internet penetration is huge among the nations. It will result in less effective in ASEAN Single Window since low IT literacy in less developed ASEAN countries. Malaysia may face problem for online trading and information sharing in this situation if the gap of literacy rate does not reduce by 2015.

TABLE II ASEAN internet users

Ranking	Country	Percentage	Numbers of users
1	Brunei	78	318000
2	Singapore	75	4.0 million
3	Malaysia	60.7	17.7 million
4	Vietnam	33.9	31.8 million
5	Philippines	33	33.6 million
6	Thailand	30	20.0 million
7	Indonesia	22	55 million
8	Laos	9	592764
9	Cambodia	4.4	662840
10	Myanmar	1	534930

Source: Internet World Stats. (2012). *Internet users in Asia 2012 Q2*. Retrieved February from *http://www.internetworldstats.com/stats3.htm#asia*

3.3 Other Conditions in ASEAN Countries Affect the ICT Infrastructure Infrastructure condition, iinternet speed and cyber-crime were discussed.

3.3.1 Infrastructure Condition

The infrastructure condition to support ICT in every ASEAN countries is widely different. The fixed telephone line, mobile phone and personal computer usage, bandwidth and wireless are used as the common indicators (International Telecommunication Union, 2010). TABLE III shows the fixed telephone lines per 100 populations from ASEAN and EU in year 2009.

TABLE III Fixed telephone lines per 100 populations (Compare with EU - 45.6)

Ranking	Country	Rate
1	Singapore	40.2
2	Vietnam	32.8
3	Brunei	19.5
4	Malaysia	15.9
5	Indonesia	13.4
6	Thailand	10.4
7	Philippines	4.3
8	Lao	1.5
9	Myanmar	1.4
10	Cambodia	0.3

Source: ASEAN Working Group. (2010). *The ASEAN e-commerce database project*. Retrieved from *http://www.asean.org/images/2012/publications/ASE AN% 20eCommerce%20Database%20Project.pdf* Besides, the mobile phone and personal computer can become the alternative devices for internet assessment which can increase the internet penetration rates. TABLE IV shows the mobile phone and personal computer per 100 populations from ASEAN and EU in year 2009.

TABLE IV Mobile phone and personal computer per 100 populations (Compare with EU – 121.3)

Ranking	Country	Rate
1	Singapore	138.1
2	Thailand	117.3
3	Malaysia	100.4
4	Brunei	88.9
5	Vietnam	80.4
6	Philippines	75.4
7	Indonesia	61.8
8	Cambodia	29.1
9	Lao	23.8
10	Myanmar	0.8

Source: ASEAN Working Group. (2010). *The ASEAN e-commerce database project*. Retrieved from *http://www.asean.org/images/2012/publications/ASE AN% 20eComme rce%2 0Database%20Project.pdf*

These two surveys had shown that the different in ICT infrastructures among ASEAN countries is huge. When compared to EU, many ASEAN countries are still lag behind. This is a challenge for Malaysia government to the implementation of ASEAN Single Market.

3.3.2 Internet Speed

Internet connection speed plays an important role in the implementation of ASEAN Single Market. The faster speed of connection can make the online transaction become much easier and smoother. According to the research, Malaysia was listed among the slowest countries in the world for loading web pages. Result shown that the average web page loading speed in Malaysia is 14.3 second, ranked as one of the world slowest ("Malaysian Among The," 2012). TABLE V shows the high broadband connections (>10 Mbps) in some ASEAN countries.

TABLE V High broadband connections (>10 Mbps) in ASEAN

Global Rank	Country	% Above 10 Mbps	QoQ Change	YoY Change
24	Singapore	7.1%	-9.70%	53%
41	Thailand	0.9%	4.10%	-18%
-	Malaysia	1.2%	75%	138%
-	Indonesia	0.1%	25%	-11%
-	Vietnam	0.1%	-27%	-55%
-	Philippines	0.1%	24%	58%

Source: Phneah, E. (2012). *Asian countries top in connection speed, attack origin*. Retrieved from *http://www.zdnet.com/asian-countries-top-in-connection-speed-attack -origin-7000005964/*

3.3.3 Cyber-Crime

Cyber-crime is still a very serious issue in Malaysia and it is keep growing over past few years as a threat to Malaysian online trading. A survey shows that Malaysia is the country to report high levels of fraud (40 % or more) in year 2011 which 44% respondents reported had faced cyber-crime (Azhar, 2011) . It is very common among internet banking users, social networking and e-commerce which make majority of Malaysians are no confident toward online trading (Chan, 2012). This can become an obstacle for Malaysia to enter into ASEAN Single Window because the citizens are still not fully ready to conduct online transactions or trading.

According to the Global Economic Crime Survey (2011), Malaysian respondents said that IT is the most likely source of cyber-crime and they do not have a proper cyber-crime crisis response plan. Most of the Malaysian respondents agreed that they are not ready to enter into fully electronic trading or transaction. TABLE VI shows Malaysia reported high level of fraud and has been increasing sharply from 2009 to 2011.

TABLE VI Reported fraud by territory

Territories that reported high level of fraud (40% or more)	% respondents 2011	% respondents 2009
Malaysia	44%	28%

Source: Global Economic Crime Survey. (2011). Cybercrime: Protecting against the growing threat. Retrieved from *http://www.pwc.com/enGX/gx/economic-crime survey/assets/GECS_GLOBAL_REPORT.pdf*

IV. RECOMMENDATION

4.0 Recommendation of Information Communication Technology (ICT) Plan for Malaysia toward the Development of ASEAN Single Window

In order to get ready for the development of ASEAN Single Window, Malaysia needs to put more effort to improve the ICT infrastructure, reduce the ICT risk and promote the awareness.

4.1 Increase the Speed on Internet

Internet speed is one of the methods to encourage people go online trading. When the speed is fast, users can get more information from internet. Besides, speed is the key element to access users' satisfaction in online buying transaction process. If the time consuming for refresh new pages or e-payment is lesser, then users are more willing to go for online trading. Malaysia has been ranked 102 out of 152 countries in internet download speed and behind of some ASEAN countries, such as Sinapore-31, Thailand-63 and Philippines-90 (NET INDEX, 2012). TABLE VII shows the speed is the most important consideration for respondents when choose internet service provider.

TABLE VII Factors to consider when choosing internet service provider

Speed	52.40%
Network coverage	46.90%
Affordability	44.00%
Stability of network	39.40%
Data/ Volume	25.30%
Brand	23.00%
Promotional bundle	22.40%
Others	20.10%
Services	15.10%
No criteria	2.60%

Source: SKMM. (2011). Household use of the internet survey 2011. Retrieved from *http://www1.skmm.gov.my/Resources/Statistics/Household-InternetUsa ge-Survey.aspx*

4.2 Reduce the Fees Charged on Internet

The fee charged on internet in Malaysia is considered very expensive and it will discourage the internet users ("Expensive Broadband Discouraging," 2010). Users need to pay for high price if they request for fast internet connection, such as pay RM199 per month for just 10Mbps speed (Sidhu, 2010). If the internet fees can be lowered down, more users are able to access to internet. It will encourage Malaysians to accept the online trading behavior.

4.3 Reduce the ICT Risk

The security issues are getting people concern (Abidin & Mansor, 2010). Beside, another serious issue faced by Malaysian is the cyber-crime which 44% respondents in a research are reported had faced cyber-crime (Azhar, 2011). Therefore, government needs to have a strong facilitation to control the IT fraud. IT security system need to be further improved in Malaysia before enter into ASEAN Single Window to make sure our information is fully protected during the online trading. The National ICT Security and Emergency Response Center (NISER) found that the lack of coordination among security agencies and the inadequate awareness are the reasons why Malaysia lacks of ICT security (MOSTI, 2013). Therefore, the cooperation among public and private sectors are needed to improve the IT security system before enter into ASEAN Single Window. So that, we can prevent any data lost or manipulated from other countries.

4.4 ICT Security Risk Management

The ICT security risk management is to ensure government online operations can be continually and minimize the disruptions by preventing the security threats. According to IT Governance Institute (ITGI), the ICT governance must be given serious consideration and managed by professional (MAMPU, 2011). Besides, ICT outsourcing should be placed properly to minimize potential risk (Khidzir, 2010). Furthermore, the laws on IT governance should be enforced strictly to prevent and reduce computer crimes. For example, laws such as Computer Crimes Act 1997 & Digital Signature Act 1997 are not actively enforced and used by the public to protect e-commerce (IRDA, 2011). Therefore, Malaysia need to make sure has the strong IT risk management system before implementation of ASEAN Single Window to protect the information.

4.2 Promote ICT Awareness

IT literacy rate in Malaysia need to further increase to make sure all Malaysians can utilize the opportunity of online trading. Government can motivate people to make online transaction by create the awareness of advantages of e-commerce such as IT campaign. Besides, online trading procedures can be simplified to make ease of using. When all Malaysians are closed to IT and understood the benefits of online trading, they will ready to accept the concept of single market. This is because all transactions will be done online and facilitate by virtue system in single market (Alshawi & Salleh, 2005).

V. CONCLUSION

When review on European Union (EU) as the example of single market, EU agrees that the ICT infrastructure is a basic need for single window implementation which enable cross border exchange date. In Europe, online trade facilitation has been recognized as strong traffic control and effective network management. However, there is positive relationship between information communication technology and economic growth because it will affect the information handling among the members (Bart & Marcel, 2005). The economic gaps among the most of the countries in EU are similar. Besides, the percentage of EU internet users and usage in global is high by increasing the usage of e-shopping, e-government, e-security and other trading. It can lead strong single market system because members are involved in the internet adoption (Eurostat, 2010).

Even though EU is strong in ICT, there are some limitations on information processing, such as data protection, elder generation users, standard ICT procedures and legal requirements, technical difficulties and ethical issue. The examples of EU best practices in IT will be e-Maritime and Port Community System, Safe Harbor and Recommendation 33. When evaluate on Malaysia readiness, the digital economic readiness, restrictiveness and openness of the Foreign Direct Investment (FDI) policy, Information technology literacy development, internet speed, infrastructure and economic conditions among ASEAN members are absolutely different. It will increase the difficulties for the implementation of ASEAN Single Window. Malaysia itself also faces the IT security concern and serious cyber-crimes.

In order to get ready for the development of ASEAN Single Window, Malaysia needs to put more effort to improve the ICT infrastructure, increase the IT education and set the better ICT policies. For example, Increase the usage of internet, improve the Internet speed, consider the fee charged on internet, IT risk, and promote IT awareness.

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