IT POLICY: HUMAN RESOURCES DEVELOPMENT

A COUNTRY REPORT

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INTRODUCTION

Information technology (IT) has been rapidly used in Indonesia, especially, in business, education and in government offices. The application of IT is being focused on the convergence among telecommunication, media and Information.

In government sector, Indonesia is developing IT to support good governance, especially to improve the quality of public services. The use of IT in supporting the process of development has been progressing in government offices both in the central and provincial levels. However, the quantity and quality of IT is not as requested as an integrated system.

In developing the application of IT to support the government offices, the government of Indonesia has already launched the presidential instruction no.3, 2003 on Policy and Strategy of E-government development. On its implementation, at present, most of government institutions in the central government and provincial offices have owned websites as the first level of E-government development, and some of them have developed one gate public service.

Considering the importance of IT to support the communication between the government and the community in the rural areas, at present the government is also building the rural telecommunication network, especially to reduce the information gap between the government and the rural community. In supporting the community activities, IT Act on Electronic Information and Transaction (Cyber Law), is also being developed at present. It is expected to have real contribution for the national economic development.

Industry and business at present have become the challenges and opportunities for IT development. However, Indonesia is facing various problems in the application of IT for diversed purposes due to the lack of perception, awareness, competency of human

resources and insufficient infrastructure to support the development of IT more effectively.

Due to the lack of human resources, it is expected that cooperation with some developed countries will be able to facilitate the development of human resources in Indonesia by providing assistance in the process of learning and providing educational resources.

NATIONAL IT POLICY

Indonesia has some basic policies regarding the Information Technology. The policies have been formulated mostly in the forms of Presidential Instructions and The Ministrial Decrees. The followings are some of the policy statements summarized from different sources, especially, from The Ministry of Information and Communication.

1. Indonesia, at present, is in the transition towards democracy. To accelerate the process of democration and national integration, Indonesia should be able to use IT for information exchange, to improve the information availability, specially, for small and medium enterprises, for efficient public services, and in supporting good governance;

2. IT development should be directed to increase social prosperity, and to improve harmonization among the community in the whole area of the country;

3. Digital divide between the urban and rural area, between those who have access and who do not have access to information network is obvious. A lot of social groups in Indonesia are unable to access information through commercial information network. To overcome the problems, government intervention is needed to build the partnership between government and private sectors to maximize the use of national enterprises network for providing more effective and efficient public services;

4. Telecommunication and internet kiosks (WARTEL and WARNET) are becoming very important tools to overcome digital divide through extending the public services. Therefore, any efforts to develop them are to be supported. The government is initiating to build Balai Informasi Masyarakat (Community Information Center) in accordance with the concept of Community Tele Center (CTC) which is agreed by world community to be developed to overcome digital divide;

5. To accelerate the development of IT, in 1997 Indonesia established an organization called TKTI (Tim Koordinasi Telematika Indonesia/Indonesian IT Coordination Team). To improve the effectiveness of the team, the President of Indonesia launched a decree No.9, 2003 on TKTI. The team consists of government, private sector, and the community which is assigned to give inputs for the government for national policy formulation, to support the optimalization of IT industry and Human resources development, to support community participation, and to increase coordination and synergy among IT community in Indonesia. IT policy is then formulated by different parties based on inputs from TKTI.

6. IT Coordination Team (TKTI) has the functions of coordinating the planning and motivating action programs and initiating to improve the development and implementation of IT in Indonesia as well as facilitating and monitoring the implementation.

7. For the success of IT implementation, TKTI mobilize resources, consensus building, and collaboration with regional and international institutions to gain inputs for policy formulation, regulations and for developing models to stimulate the development of IT in Indonesia, and to gain technology support, funding, and others. The private sector should actively participate in providing information and developing various applications needed by the community. The government is, therefore, supporting the development of information content and application industry, especially software.

8. Infrastructure of information network is needed for information access and distribution nationally and globally. To be able to use IT, which is developing rapidly in Indonesia, the government is also extensively building the national information infrastructure to increase the performance of information network;

9. Indonesia is continuously growing a competitive market for IT business and supports industries that produce IT products;

10. Central and local governments are supporting the financial system to support the development of information network services for small and medium enterprises and for rural people unable to access commercial services;

11. Indonesian government is also proactively plays the role as a catalyst to facilitate interaction and communication among IT stakeholders, and develop collaboration with international institutions for developing national information infrastructure;

12. Indonesia, at present, is in the process of transition from monopolistic to competitive business of IT. Opportunity for IT business between government owned enterprises and private enterprises is to be equally supported. Incentives are provided, in accordance with market requirements, to accelerate the development of service industry and information network, and information product industry to gain the world class quality of IT;

13. Indonesia is also developing legislations and regulations to support the development of e-commerce and various uses of information network. The efforts cover the formulation of cyber law, regulating the validity of electronic document, digital signature, electronic transaction, certification authority, privacy and security of information network users.

14. Development of IT based businesses determines the flow of technology diffusion towards the economic activities and community lives. Private sector plays the important role in IT transformation potentially, for developing the products and services needed;

15. The government of Indonesia intends to create and improve the conducive and competitive business condition, in order that private sectors develop to support IT distribution widely in Indonesia to reach the levels of District area, sub district area, and rural area, and for foreign market penetration.

16. The government of Indonesia through the science and technology policy should be able to motivate the private sector to improve research and development. The activities will also be directed to support technology based industries on IT.

17. Sustainable development could not be implemented without technological advances and application. The government and private sector should increase support for the generation and dissemination of science and technology through educational program, research development, and its application for businesses.

18. IT resources to be allocated efficiently to protect the community needs. The renewal system of the rules and regulations of IT should be directed to formulate the system that is free from certain party interests;

19. Implementation of information network in central and local government has become prerequisites for good governance to improve transparency, accountability, and participation of the community in various government activities for better public

services, to improve the efficiency of the implementation of regional autonomy and to reduce budget inefficiency.

20. To improve communication among government institutions and to provide services to public and private sectors effectively and transparently, it is needed to build a compatible platform and architecture for all government institutions using IT. Among the programs to be extended are development of G-online backbone for the use of government institution and for providing public services, to update transaction procedures and regulations in government institutions and to build commitment and agreement to facilitate information use and exchange among government institutions.

21. For the success of the programs, government of Indonesia is working hard to improve the awareness and readiness for IT application, to implement government online effectively, and intensively improve the government officials in various levels

22. Indonesia is preparing an ACT on electronic information and transaction. The ACT has been submitted to the president of Indonesia since June 2003. It is expected to be launched by the end of this year. The ACT is a strategic way in IT development and to be a national reference for any business of IT in Indonesia. Among of the important aspects covered in ACT is relating to the electronic transactions such as budget transfer, e-payment, Electronic Data Interchange, electronic report, digital identity and others.

23. Since language barrier is one of major constraints in the application of IT, government of Indonesia has supported to develop standards and software in Indonesian language to help IT products used easily by common users;

24. The government of Indonesia is developing standardization on operation system and procedure of information services, standard of data and item that should be prepared in documentation, network standard, standard of database management system to be implemented, standard of the process of information system integration, and standard of accountability of information system development.

THE TRENDS OF IT IN INDONESIA

Information Technology in Indonesia is promoted more dominantly by nongovernment sectors, especially mass media and associations. Mass media has a very important role in promoting IT. And among the most active media in promoting IT are Infokomputer, Neotech, PC Plus, Microdata, Chip, Warta Ekonomi, SWA, Kompas, Koran Tempo, Info Linux, and some publishers like Gramedia, Alexmedia, and others.

Besides media, a lot of seminars, lectures, workshops, roadshows, talkshows, exhibitions held by various IT communities such as APKOMINDO, AWARI, IndoWLI and others are also important activities to give the information for the community on IT development.

To accelerate IT development in government institutions, E-government is being developed in central offices, provincial, district, sub district and rural offices to facilitate the community with easily access to public services. Up to now , there are about 8 million internet users in Indonesia where 40 percents use for business and 5 percents use internet for shopping (APJII, 2002).

Improving the community access to public services, up to now, 353 websites have been developed in provincial and district offices in Indonesia. However, some other district offices complained of unable to access to e-government due to some constraints, especially, the unavailability of telecommunication infrastructure in the district areas.

Regarding the telecommunication infrastructure, the government of Indonesia in 2003, allocates 90 billion rupiahs (US$ 12 million) to build telephone network in 7.500 rural areas and 870 sub district areas in Sumatera, Kalimantan and East part of Indonesia (KTI). This project is the first phase of rural telephone network projects to reach 43.022 rural areas using 475 billions rupiahs (US$ 60 million) that will be carried out within three phases, based on USO scheme (Universal Services Obligation). The second phase will be in 2004 for 17.000 rural areas and in 2005 will cover 22.000 rural areas.

In computer marketing, based on the reports of the chairman of the Indonesian Computer Business Association (Apkomindo) that the computer selling increased 10 percents during the first three months of year 2003. However, Copyright laws released by the government in July 29, 2003 and some bombings have influenced the market. So realization of PC selling during the first semester year 2003 reached only 83 percents from the target 350.000-400.000 units in 2003.

HUMAN RESOURCES DEVELOPMENT

In the development of IT industry in Indonesia, and the enhancement of its international competitiveness, one of the most important policies is to build the capacity of highly qualified human resources. In this regards, there are strong needs for IT specialist to support the implementation of electronic Government, educational institutions, and IT industry. IT training course through e-education/tele-education system with domestic and international cooperation would be an option in developing IT human Resources. The role of universities in this case is very important. In carrying this mission, however, universities need to collaborate closely with industry, in order to have mutual benefits, from such collaboration.

The role of IT is very important to improve the quality of education in Indonesia. Hence, the government together with the stakeholders of education strongly support the private sector to develop long distance learning program and to build the international cooperation to improve technical capacity and sustainable learning for the community. IT is also Introduced to all educational levels beginning from elementary school to university level by inserting IT as part of educational system. School curriculum is being modified to accommodate IT Program.

The improvement of IT based information services is a global issue/demand. Based on this issue, the ideal need of human resources could be estimated. As a general figure, the need for human resources in E-government for government institutions in central, provincial, and district areas covering 449 institutions (67 central offices and 382 provincial /district offices) are minimum of 5.489 IT staff needed for E-government operation to provide 14 types of public services (KOMINFO, 2003);

In cyber media, as commercial information services, to see the need of human resources could be estimated by comparing it to printed media having online services. At present, the number of online media are 1,921 media, consisting of 679 printed media, 1,188 broadcasting media, and 54 televisions. The need of human resources is estimated to reach the minimum of 40,000 staff (KOMINFO, 2003)

The need for IT Human Resources is not only happening on information services, but also on IT production and supporting parts such as software, network. In this area, by the year 2010, Indonesia needs around 600.000 IT professionals to join business in IT production (Raharjo & Langi, ITB).

In high education, based on data from The Ministry of Education, Indonesia has 476 states and private universities offering IT program. The total number of University graduates on IT is less than 40.000 graduates every year. This number will not be able to solve the shortage of IT professionals and to solve the problem of IT manpower.

To resolve the sortage of IT manpower, the government of Indonesia has made some efforts to improve e-literacy for both government officials and community, to optimize the use of the available education and training resources, and to extend distance learning, especially, for bridging the gap in human capacity among provincial and district levels in the whole parts of Indonesia.

Government of Indonesia is also using IT to support educational programs, especially, to improve the quality of education. In the level of Senior High School. For instance, Within the next five years all vocational schools in every district area should have link to e-learning and long distance learning so the development of learning materials will easily be transferred from the central government to schools in the district level. Up to now 1200 of 4000 vocational schools have been connected to internet.

CONCLUSION

Human Resources Development is one of crusial problems in IT development in Indonesia. The problem is not only regarding the quantity but the competency of manpower as well. The availability of 476 public and private Universities Serving Program of Information Technology, is not sufficient for Indonesia to supply IT professionals as needed. Therefore, the government of Indonesia is encouraging private sectors and Associations to extend IT training programs and promoting international collaborations in IT manpower development.

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