The Role of Human Resources, Bureaucracy Culture and Leadership in Indonesian E-government

Introduction
Indonesian E-government implementation involves human resources, bureaucratic culture and leadership issues. Those issues appear due to the change that occurs if e-government is implemented nationally. As OECD (2003, p. 16) states “implementing e-government can be risky, expensive and difficult, and requires change”. The change is inevitable for effective e-government implementation, and to gain its benefits.

Improvement of ICT literacy and skill is needed in Indonesia’s e-government implementation. Its improvement in human resources, committed leadership to the improvement of e-government and the ability of controlling and managing e-government implementation in Indonesia’s bureaucracy will enhance e-government effectiveness. This chapter will analyze those factors.

The Role of Human Resources in Indonesian E-government
Indonesia has been struggling with economic policy since the Asian economic crisis of 1997. This was followed by political turmoil (the changing of presidents and government system from dictatorial to a reform regime) that affects Indonesian ICT improvement. According to Tamara (2001), since the economic crisis began, Indonesia has missed the opportunity of switching to the new economy based on the information and communications technology (ICT). Improving Indonesian ICT needs capable human resources in ICT. As Tamara (2001) states, the new Indonesian economy requires far more sophisticated human resources to manage and utilize the vast opportunities being ushered in by advances in information technology.
One obstacle of e-government implementation is the lack of capable human resources in ICT, because ICT is relatively new. That situation is supported by research that states: computer literacy in Indonesia is considerably low (Setiyadi, 2003). Hence, education and training is essential to improve human resource literacy and skill, especially of young people in Indonesia. ICT infrastructure improvement is crucial to improve e-government in Indonesia and that situation can be improved by enhancing the ICT skill of human resources. About three million public servants had ICT training on a sporadic basis, and it is estimated that less than ten percent of government workers have some awareness of ICT (Minges, 2002). It means that the number of human resources capable in ICT is still limited and need to be improved.

Indonesian agencies rarely have capable human resources in Information Communication and Technology. There is a tendency for human resources in ICT prefer to work in the private sector (Setiyadi, 2003). Hence, the quality of government’s human resources in ICT is lower than in the private sector. This phenomenon is one obstacle to e-government implementation in Indonesia. It is proved by the small number of the public sectors’ computer literate staff: only 703 people (Badan Pusat Statistik (Indonesian Center of Statistic Agency) cited in Warta Ekonomi.com, 2004). According to Sipado (Director of Center of Information Technology Analysis) cited in Kompas Cyber Media (2000), Indonesia’s public sector still has limited human resources that understand Information Technology.

Moreover, many IT students are not interested in becoming public servants. There is a great disparity between the public sector and private sector due to better career opportunities, salary, and allowances in the private sector. Further reasons are bureaucratic environment, no transparency in the work system, and minimal welfare of public servants (Warta Ekonomi, 2003). Those elements dissuade capable workers in ICT to become public servants.
In addition, the use of technology for some public servants creates fear, thus they do not want to implement e-government. E-government implementation also has obstacles for public servants such as fear of losing their job due to the use of technology and fear of senior public servants that are afraid of using and adapting technology. According to Soeryaningsih (Rector of Bina Nusantara University – an IT university) cited in Warta Ekonomi (2003), there are still many public servants that believe the use of ICT will hinder their work. A solution that can be applied to overcome this fear is allowing staff to become more skilled in using Information Technology, such as using the web for factors other than official business (Margetts and Dunlevy, 2002, p.12). This effort is to improve the attractiveness of the Internet, nevertheless this effort should be managed carefully due to efficiency and effectiveness of the use of ICT. They also suggest incentives to overcome the rivalry problem between staffs because of the need of human resources that has good ability in ICT. Incentives can be applied to public employees when they can improve their work by using IT (Margetts and Dunlevy, 2002, p.12).

Fear of adopting information technology is also a common problem in India. Moreover, the role of IT is worsening by the defeat of the government in the last election, in relation with its IT program. One of the reasons of the loss of the previous government was because they had turned the state capital Hyderabad into a hub of IT and it causes bad economic performance and distrust from the people (dailytimes.com, 2004). However, according to Tully and Wright (2002, p. 140), India cannot totally oppose computerization, but it must cooperate with manual work, hence, there should be no reduction in manpower. That statement describes the public employees’ fear of losing their job because of the use of Information technology such as computer and Internet. They are against employee’s dismissal process because of the use of the Internet.
The future challenge to improve e-government in Indonesia is to not only provide infrastructure and improve electronic application, but also to focus on improving human resources’ ability in ICT. Human resources also act as stakeholders of e-government implementation. If the stakeholders do not want to change their way of life and way of thinking, it is difficult to gain e-government’s advantages. Human resources act as object and subject in e-government implementation, hence their ability in ICT should be improved.

There is still a problem in the ability of human resources when their role is as the operator of e-government in Indonesia. As Soendjojo cited in pikiran-rakyat.com (2003), interactive communication through the web in West Java Province’s government site (http://www.jabar.go.id) does not occur because its human resources never update their web site. According to Soendjojo cited in pikiran-rakyat.com (2003), only 45% of local government in Indonesia manages their sites actively. It is proved by the e-mail replying process from local governments. He sent 90 e-mails to local governments in Indonesia, but he received only 25 e-mails after two to four weeks (pikiran-rakyat.com, 2003). This situation describes the weakness of managing sites in local government in Indonesia. In addition, Soendjojo (cited in pikiran-rakyat.com, 2003) states that those problems occur due to lack of competent human resources and infrastructure in ICT, such as limited telephone lines. Hence, the improvement of human resources ability in ICT also should be followed by the improvement in ICT infrastructure.

Lack of human resources’ ability in ICT also causes inefficiency and ineffectiveness of e-government implementation. An example can be seen in the development of Madiun’s government web site (a city in East Java), its site does not provide complete facilities due to lack of competent human resources in ICT, even though the government already spent Rp. 400 million for completing and improving its e-government (Kominfo, 2003). Only limited people access this site. As Kominfo (2003) states, until November 2002, only
35 people accessed Madiun’s government site due to incomplete and unattractive site content.

Furthermore, according to Kominfo (Ministry of Communication and Information) (2003), Indonesia’s young still face a gap in ICT because many of them have difficulty in accessing ICT. Many of them do not have the opportunity to access ICT, hence ICT development in Indonesia is relatively slow. The difficulty in accessing ICT can be seen by the low number of fixed telephone lines available. There are only 7.5 million fixed telephone lines available for 220 million people in Indonesia (Kominfo, 2003).

In an effort to improve young peoples ability in ICT in Indonesia, Samsung (a telecommunication company) conducted a Digital Hope program that also occurred in Australia, India, Singapore, Thailand, Malaysia, Vietnam, and Philippines (Kominfo, 2003). The program attempted to eliminate the gap of ICT among the young population in those countries. The Digital Hope program can improve young peoples’ life and education.

Moreover, to improve the accessibility of Internet for young people and students, the government provides Internet mobile. In West Kalimantan, the government in cooperation with Lembaga Informasi Nasional (LIN) – National Information Institution provides Internet mobile to improve accessibility of information for its citizens (LIN, 2003). However, the number of the Internet mobile is not significant compared to Indonesia’s population. It accessibility and availability is still limited, hence it still needs to be enhanced. Programs to improve human resources’ ability in ICT can be conducted by public - private partnerships programs as a solution of limited budget in the public sector. Such programs should be supported due to the importance of reducing the digital divide.

**Bureaucracy and Indonesian E-government**
Information technologies affect bureaucracy. “Information technologies affect information flows, coordination, and the work of the bureaucracy by altering the relationship between information and the physical factors of distance, time, and memory” (Fountain, 2001, p. 33). For example, data is being digitized and can be accessed by every layer of government institutions easily, it can even be accessed without limitations of hierarchy. “The creation of telecommunications networks can greatly reduce the space (files), staff, and tasks needed to manage data” (Fountain, 2001, p. 35). The layers in bureaucracy are simplified.

According to Kettl (2000, pp. 68-69), “public management is inevitably about politics; and public management reform is about strengthening the ability of elected officials to produce result”. In addition, public management reform is as much about politics as management and it is about government, the private and nonprofit sectors (Kettl, 2000, p. 69). Strengthening the ability of the bureaucrat is needed in public management reform and in public service deliveries process. Good ability of bureaucrats in politic and management is needed in public management reform, including in e-government implementation.

The measurement of government performance in new public management depends on the government relationship. As Kettl (2000, p. 69) mentioned “the performance of government strongly depends on the relationship of administration with the rest of government and of government with non-governmental partners”. As e-government is linked to those three relationships, the success of e-government will also mean the success of government performance.

Kettl (2000, p. 33) states, one important factor of management reform strategies is that they must fit with and be supported by the governance systems in which they are located. President’s directive is one example of supported governance systems. Indonesian President directive No. 3 in the
2003 about policy and national strategy of e-government implementation means that e-government becomes a reform in public management strategies and bureaucracy in Indonesia.

In addition, according to OECD (2003, p. 157), “e-government will affect the relationship between the parliament, the executive and citizens, challenging traditional concepts of political legitimacy, representation and ministerial accountability”. E-government affects government strata and the citizens due to the use of Internet. The relations creates more accountability, transparency, better interaction and coordination among those strata because the virtual nature of the Internet. Moreover, bureaucracy’s layers will be simplified.

Patrimonial bureaucracy culture in Indonesia should be reformed into a situation that is more dynamic and transparent, moreover, there should be a sharing of information processes among government agencies. The patrimonial type of Indonesian bureaucracy is an inherent factor in the Indonesian political system in the new regime era. Historically, that situation is caused by the influence of traditional values from Indonesian ancient kingdoms and a colonial style of bureaucracy (Santoso, 1993, p. 139). Moreover, Indonesian bureaucracy is still focused on social control orientation rather than service orientation (Santoso, 1993, p.140). Those values are still occurring in Indonesian bureaucracy in some areas, even though Indonesia is in the reform era. In this reform era, the Indonesian government’s bureaucracy still has not changed significantly. It is reflected in the government’s capacity to serve the public. For example, behavior patterns of bureaucrats in Yogyakarta, West Sumatra, and South Sulawesi still show a low level of accountability, responsiveness, and efficiency in giving the service to the public (Dwiyanto et.al, 2002, p. 228). In sum, public service quality is still at a low level.
In addition, there is limited transparency, openness, loyalty, and dialogue process with the public, and this creates situations where there is not a public trust of bureaucrats. Transparency and work culture reform has not changed Indonesian bureaucracy. There are still unofficial fees that burden people, and there remains a lack of public sector capacity to serve the citizens. For example, the unofficial fee needed in getting a land certificate (Dwiyanto et.al, 2002, p. 229). Bureaucratic work culture should be changed to be more dynamic, transparent, and accountable. E-government can help to achieve this.

The process of changing the work culture in Indonesia’s public service is important. As Khudori cited in Setiyadi (2003), an obstacle faced by Indonesian government to improve e-government implementation is to change the work culture of public servants, because the effectiveness of public servants’ service to citizens will be seen by the citizens. Further opinion explains clearly the relation between the use of IT and the culture of organization. The use of an IT system will be successful only if it improves organizational performances. If the changes happen due to the use of IT, then the culture must change too, because future performance and survival are at risk (Sauer, C, Yetton, P.W., & Associates, 1997, p.134). Therefore, cultural changes in organization become unavoidable when adopting ICT.

Moreover, e-government implementation also needs change in the organizational structure. As Layne and Lee (2001, p. 135) state because e-government becomes more prevalent, and the public sector organizational structure will change accordingly i.e. internally that is system efficiency, and externally that is the citizens. The most important factor is that e-government can give convenience to citizens, hence the changing of public sector’s work culture and organizational structure is intrinsic to gain the benefit of e-government implementation.
According to Rahardjo (2001), one obstacle of e-government implementation in Indonesia is there is no sharing culture and willingness to create an efficient process, “why they should make the process easier if they can make it difficult”. It can be seen that the work culture among the bureaucrats does not have willingness to change into more efficient and effective work culture. Moreover, according to Accenture (2002), in their research about general public sector partnering issue, only 50 percent of respondents said they have the ability to share data with other government agencies, and only 11 percent have the ability to share it with businesses. This means, even though the public sector willing to share data with others agencies or private sector, they have lack capabilities to make them happen (Accenture, 2002).

In addition, according to Fountain (2001, p. 51), the Internet has the ability to affect not only production but also coordination. If public servants can understand and use Internet maximally, coordination among agencies can be improved. As long as Internet is used as, “simply a matter of increasing rationalization in the bureaucracy, then the logics would be perfectly aligned” (Fountain, 2001, p. 51). Hence, Internet will not and cannot change the rationale of bureaucrats. Internet will improve rationalization of bureaucracy and its organization. As Fountain states (2001, p. 12 and p.98), IT will reshape organization into a better logic, and reciprocally organization will shape the enactment of IT. It is clear that the use of IT, such as Internet will not harm organization and its bureaucracy, but it gives advantages.

Indonesia’s political, economic, and financial situations are still in crisis. Malpractice in the public sector still occurs. Bribing to get faster service is still consider common. There are different needs between private and public sectors in understanding reform in public administration. Bureaucrats that get advantages with the old system do not want to change, while the citizens need easier, cheaper, faster, on time, and transparent services. The work culture, vision, and mission should be changed into more efficient, effective, transparent, and accountable process of services for the citizens. Because,
some public servants still misuse their information for their own benefit (Rahardjo, 2001).

The use of the Internet will reduce layers in bureaucracy, due to on line activity. It will improve the cognitive aspect in an organization, including their bureaucracy, due to the adoption of technology and its rationalization. As Fountain (2001, p. 98) states, IT affects institutions in the form of “cognitive, cultural, socio cultural and formal embedded ness”. It also affects the changes in cultural issues in its working procedure. If it is used wisely then IT will improve coordination, effectiveness, and efficiency due to reducing time, distance, and memory.

Bureaucracy will be simplified due to the adoption of IT. The citizens can simplify its layers to gain services. As Hughes (2003, p. 193) states, bureaucracy will not disappear, only the layers reduce. In sum, Fountain (2001, p. 62) states, the Internet in bureaucracy is to lead to greater rationalization and standardization. The nature of IT is that rationality will effect and improve the rationalization of bureaucrats. The importance of bureaucracy never disappears, but it is restructured due to the use of Internet in the public sector.

Improving the attractiveness of using IT in e-government by bureaucracy can be conducted by the incentive method. As Margetts and Dunleavy (2002, p.12) state, citizen benefits of e-government can be maximized by using incentive to encourage citizens to access electronic services. For example, if citizens pay tax online, then the government will give a considerable reduction. However, this incentive system should be applied carefully. As Margetts and Dunleavy (2002, p.12) state, incentives have to be realistically designed so that they really are incentives. The citizens should obtain factual benefits, and they not be deceived by the government, because of the online incentive system.
Leadership and Indonesian E-government

Leadership and commitment are factors of successful e-government because e-government implementation needs change in bureaucracy culture and administration. A committed leadership to e-government implementation can manage the change effectively. As OECD (2003, p. 153) states “leadership and commitment, at both political and administration levels, are crucial to managing change”, because committed leaders are to “deal with disruptive change, to persevere when benefits take time to emerge, to respond when things go wrong, and to establish visions and plans for the future”. Leadership is necessary at all levels, from the political to the administrative. Political leadership makes e-government a priority and guides transformation by putting it in a broader context, and in administrations, leading implementers help translate political vision into an action plan (OECD, 2003, p.153). Leaders can make strategies in e-government implementation that becomes the guidance of its implementation or action.

Creating local leaders (team leaders, project leaders, etc) is a key answer to the principle of decentralized management and decision power over IT in organizations (OECD, 2003, p. 97). Hence, leadership is needed for managing and making decisions regarding e-government implementation.

According to OECD (2003, p. 98), principles for successful e-government leadership are “coordinating resources and responsibilities within the organization; developing common vision and set objectives (e-agenda); developing the ability to persuade people to that vision in order to convince the enthusiasts and engage the skeptics; developing a customer-led and customer-focused approach; ensuring that leadership can be recognized and encouraged wherever it is found in the organization; raising the awareness and developing the skills of employees, encouraging innovative solutions to organizational problems; assessing and building the capacity to deliver on line services, leading people through the difficult process of change, securing the commitment from staff along the way and managing their programme of
work; ensuring technological development within the organization and make sure that personnel can fully benefit from that; recognizing the full use of technologies but not chasing technological solutions in itself”. These principles need to be implemented in all government institutions in Indonesia to improve its e-leadership.

Leadership in e-government implementation is essential, especially in deciding vision, mission, strategic planning, managing, and coordinating implementation nationally in Indonesia. The importance of leadership in an organization is stated by Evans and Wurster (2000, p. 228), a leader is creating a culture and strategy. The cultural values in an organization reflect the vision of the leader, and the organization’s programs or activities improvement will depend on the leader’s skill; moreover, the right culture in organization only depend on the leader skill (Evans and Wurster, 2000, p. 228). Hence, leadership is an essential factor to implement and improve a new system, such as e-government. Apparently, there is no one national e-leadership in Indonesia that can be used as a role model. As Setiyadi (2003) states, Indonesia does not have e-leadership that can become a role model for the public in deciding electronic strategies. In Malaysia, Dr. Mahatir Muhammad (their former Prime Minister) gave vision for electronic development through InfoComm’s infrastructure. In addition, based on experience in Indonesia, when high level of local officials such as mayors or governors do not have ICT awareness, then projects will not be successful (Minges, 2002). This situation describes the importance of leadership in e-government implementation and improvement in Indonesia.

Public employees are not being motivated to improve and provide policy about ICT when there is a need of e-leadership due to the characteristic of Indonesia’s paternalistic culture. This situation causes a lack of policy including operational guides at every level of government to improve ICT. Because of the situation, when there is no role model in electronic leadership, bureaucrats working under leaders are not motivated to improve
and provide policies in electronic development. As Setiyadi (2003) states, the paternalistic Indonesian culture makes bureaucracy unmotivated in electronic development and provides electronic policies when there is not e-leadership. Indonesia needs a nationally committed leader to e-government implementation, in order that there is bureaucratic support for the use of IT and there is ICT policy improvement.

An example where leadership has an important role in the success of e-government implementation is in Takalar regency, Indonesia. The head of Takalar regency is motivated and committed to implementing e-government in his area. Moreover, he can organize the business sector in his area that supports e-government implementation. Hence, its government can give better service to their citizens. For example, making an ID card only takes five to ten minutes, licenses (such as a business license) that usually take two weeks, now only take one to three days, and there is 70% better efficiency in paper usage (Susatijo, 2003).

Moreover, in East Kutai regency (Kalimantan Island), its regent, Awang Faroek Ishak is committed to implementing e-government. It is proved by his preparation in all supported infrastructure and simptap (management information system within one roof) project that have succeeded (Gatra.com, 2003).

There are still obstacles when head of agencies are not willing to implement e-government. They do not like a changing process and there is a fear of disappearance of revenue from other sources for their public servants. There is still resistance to change from local bureaucrats because multilevel corruption becomes less (Gatra.com, 2003). Unwillingness to change by the leaders and fear of losing additional revenue are still obstacle of e-government implementation.
Clear vision, mission, strategy, and committed national leaders to e-government improvement are important, because leaders have a crucial role in deciding e-government implementation. Garnham (2000) cited in Setiyadi (2003) states, non-technical factors, such as vision, mission, goals and strategies conducted with full support of national leaders is more dominant than technical factors (such as computer and telephone) in improving the success of e-government. In Indonesia’s case, leadership commitment to e-government should be followed by other factors, namely supported ICT infrastructure, cyberspace law enforcement, capable human resources in ICT, and a supportive bureaucratic work culture. Those factors should be in an integrated way improved to gain maximum benefits of e-government implementation.

**Conclusions**

Human resources capable in ICT are still limited. It is proved by the small number of computer functional staff in the public sector. However, the improvement of ICT literacy in Indonesia’s public sector human resources should be followed by the improvement of ICT infrastructure, such as improvement of computer, Internet and telephone lines. Fear of losing their job and additional income becomes obstacles for e-government implementation.

There is still no culture of sharing of information in Indonesian bureaucracy. This remains an obstacle of e-government implementation. Furthermore, Indonesia’s bureaucracy is another drawback of the use of ICT to improve their capacity to serve their citizens. Not all bureaucrats are willing to change their work culture.

Leadership has an important role in creating good vision, mission, and strategy of e-government implementation in Indonesia. A committed leader to the improvement of e-government implementation will affect the effectiveness
of e-government implementation. Indonesia still needs a national leader to improve its e-government implementation.