Proceedings ICETD 2012

The First International Conference in Engineering and Technology Development

Universitas Bandar Lampung
20 - 21, June 2012
Lampung, Indonesia

The First International Conference on Engineering and Technology Development (ICETD 2012)
Faculty of Engineering and Faculty of Computer Science, Universitas Bandar Lampung

ISSN 2301-6590

PREFACE

The activities of the International Conference is in line and very appropriate with the vision and mission of the UBL to promote training and education as well as research in these areas.

On behave of the First International Conference of Engineering and Technology Development (ICETD 2012) organizing committee; we are very pleased with the very good responses especially from the keynote speakers and from the participants. It is noteworthy to point out that about 45 technical papers were received for this conference

The participants of conference come from many well known universities, among others: Universitas Bandar Lampung, International Islamic University Malaysia, University Malaysia Trengganu, Nanyang Technological University, Curtin University of Technology Australia, University Putra Malaysia, Jamal Mohamed College India, ITB, Mercu Buana University, National University Malaysia, Surya Institute Jakarta, Diponogoro University, Unila, Universitas Malahayati, University Pelita Harapan, STIMIK Kristen Newmann, BPPT Lampung, Nurtanio University Bandung, STIMIK Tarakanita, University Sultan Ageng Tirtayasa, and Pelita Bangsa.

I would like to express my deepest gratitude to the International Advisory Board members, sponsors and also welcome to all keynote speakers and all participants. I am also grateful to all organizing committee and all of the reviewers which contribute to the high standard of the conference. Also I would like to express my deepest gratitude to the Rector which give us endless support to these activities, such that the conference can be administrated on time.

Bandar Lampung, 20 Juni 2012

Mustofa Usman, Ph.D
ICETD Chairman

The First International Conference on Engineering and Technology Development (ICETD 2012)
Faculty of Engineering and Faculty of Computer Science, Universitas Bandar Lampung

ISSN 2301-6

PROCEEDINGS
The First International Conference in Engineering and Technology Development
(ICETD 2012)
UNIVERSITAS BANDAR LAMPUNG
Bandar Lampung,Indonesia
June, 20-21 2012

Sterring Commite
Chairman
Mustofa Usman

Co-Chairman
Marzuki

Technical Committee
Ahmad Cucus
Agus Sukoco
Dina Ika Wahyuningsih

Treasure
Maria Shusanti Febrianti

Committee Member
Indyah Kumoro
Fritz Akhmad Nuzir
Baginda Simaimban
Berry Salatar
Harpain
Yuthsi Aprilinda
Usman Rizal
Andala Rama P.Barusman
Yanuar Dwi Prasetyo

International Advisory Board

Ahmad F. Ismail, Malaysia	Faiz A.M.Elfaki, Malaysia	Tjin Swee Chuan, Singapor
Hon Wei Leong,Singapore	Rudi Irawan, Indonesia	Heri Riyanto, Indonesia
Mustofa Usman, Indonesia	Warsono, Indonesia	Khomsahrial R, Indonesia
Imad Khamis, USA	Gusri Ibrahim, Indonesia	Agus Wahyudi, Indonesia
Moses L. Singih, Indonesia	Raihan Othman, Malaysia	Rony Purba, Indonesia
Y. M.Barusman, Indonesia	Jamal I Daoud, Malaysia	Lilies Widojoko, Indonesia
Andreas Dress, Germany	Zeng Bing Zen, China	Alex Tribuana S, Indonesia
Rozlan Alias, Malaysia	Riza Muhida, Indonesia	

The First International Conference on Engineering and Technology Development (ICETD 2012)
Faculty of Engineering and Faculty of Computer Science, Universitas Bandar Lampung

ISSN 2301-6590

Organizing Committee

Chair Person
Prof. DR. Khomsahrial Romli, M.Si

Vice Chair Person
Drs. Harpain, M.A.T., M.M

Secretary
Fritz Akhmad Nuzir, S.T., M.A
Ahmad Cucus, S.Kom., M.Kom

Treasure
Dian Agustina, S.E

Special Events
DR. Zulfi Diane Zaini, SH., MH
DR. Baginda Simaibang, M.Ed
Zainab Ompu Jainah, SH., MH
DR. Alex Tribuana S., ST., MM
Erlangga, S.Kom

Recepcionist
Berry Salatar, A.Md
Yanuar Dwi Prasetyo, S.Pd.I., M.A
Siti Rahma Wati, S.E
Ardiansyah, ST., MT
Sofie Islamia Ishar, S.T., M.T
Taqwan Thamrin, S.T., M.Sc

Transportation and Acomodation
Irawati, SE
Usman Rizal, S.T., MMSi
Hendri Dunan, S.E., M.M
Rifandi Ritonga, S.H
Desi Puspita Sari, S.E
Roby Yuli Endra, S.Kom
Tanto Lailam, S.H
Ilyas Sadad, S.T., M.T

Publication and Documentation
Ir. Indriati Agustina Gultom, M.M
Monica Mutiara Tinambunan, S.I.Kom., M.I.Kom
Noning Verawati, S.Sos
Hesti, S.H
Rifandi Ritonga, SH

The First International Conference on Engineering and Technology Development (ICETD 2012)
Faculty of Engineering and Faculty of Computer Science, Universitas Bandar Lampung

ISSN 2301-6

Olivia Tjioener, S.E., M.M
Violita, S.I.Kom

Cosumption
Dra. Yulfriwini, M.T
Dra. Agustuti Handayani, M.M
Susilowati, ST., MT
Wiwin Susanty, S.Kom
Reni Nursyanti, S.Kom
DR.Dra. Ida Farida, M.Si

Facility and Decoration
Zainal Abidin, SE
Ahyar Saleh, SE
Eko Suhardiyanto
Dina Ika Wahyuningsih, A.Md
Wagino
Sugimin

Table Of Content

1ˢᵗ International Conference on Engineering and Technology Development   *ISSN 2301-6590*
(ICETD 2012)
Universitas Bandar Lampung
Faculty od Engineering and Faculty of Computer Science

1st International Conference on Engineering and Technology Development   *ISSN 2301-6590*
(ICETD 2012)
Universitas Bandar Lampung
Faculty od Engineering and Faculty of Computer Science

1st International Conference on Engineering and Technology Development
(ICETD 2012)
Universitas Bandar Lampung
Faculty od Engineering and Faculty of Computer Science

ISSN 2301-6590

M-Government as Solutions for E-Government Problems in Indonesia

Ahmad Cucus[#1], Marzuki[#2], Agus Sukoco[#3], Maria Shusanti Febrianti[#4]

[#1,2,3,4]*Information Engineering, Faculty of Computer Science, University of Bandar lampung*
Jl. ZA. PagarAlam No. 26 LabuhanRatu Bandar Lampung, 35 141,Indonesia
[1]cucus_ahmad@yahoo.com
[2]marzukird@yahoo.com
[3]agussukoco16@gmail.com
[4]suzanne_mario1986@yahoo.co.id

Abstract— *e-Government implementation has not been fully e-government in our country, its scale is still in its most basic level is the level of information, while the second level was already in. (interaction) have not been able to function properly. so that the goals expected by the government has not yet reached maximum.*
Some of the factors that lead to less maximal application of e-Government can be enhanced by m-Government, one of the things that makes the implementation of m-Government can develop the infrastructure that is better able to reach by the public both in terms of cost and knowledge

Keywords—*e-Government, m-Government, Government, Infrastructure, Public.*

I. INTRODUCTION

Governments around the world is supposed to provide excellent service for its residents, one side of the service it is the increasing ease and speed in accessing information and data relating to the business processes that involve the government and people, so the government announced the implementation of e-government with the instructions President of the Republic of Indonesia Number 3 Year 2003 on National Policy and Strategy, so that each region to transform traditional government to electronic government (eGovernment).

The president said in the Instruction that the development of e-government is an attempt to develop a governance-based implementation (using) the electronics in order to improve the quality of public services effectively and efficiently. Through the development of e-government conducted structuring management systems and work processes within the government to optimize the utilization of information technology. Utilization of information technology includes 2 (two)-related activities, namely:

1) data processing, information management, management systems and work processes electronically.

2) utilization of advances in information technology so that public services can be accessed easily and cheaply by communities across the country.

To carry out this purpose the development of e-government aimed to achieve a 4 (four) objective, namely:

a. The establishment of information networks and public service transactions that have the quality and scope that can satisfy the public and accessible in all regions of Indonesia at any time is not limited by time and the bulkhead at a cost affordable by the community.

b. The establishment of an interactive relationship with the business community to enhance the development of national economy and strengthen their ability to face change and international trade competition.

c. Establishment of mechanisms and channels of communication with state institutions and the provision of facilities for the public dialogue in order to participate in the formulation of state policy.

d. The establishment of management systems and work processes are transparent and efficient and facilitate transactions and services among government agencies and local government autonomy.

But in e-Government implementation has not been made fully e-government in our country is still in the majority of the most basic level is the level of information, while the second level was already in. (interaction) have not been able to function properly. so that the goals expected by the government has not yet reached maximum. Global e-Government based on a survey conducted by the united states, for e-Government readiness, Indonesia ranked 96th in 2005 and decreased to 106 positions in 2008. basedFuruholt and Wahid, there is a large gap e-Government implementation in Indonesia due to several factors, such as infrastructure, management and human resources.

II. OBSTACLES E-GOVERNMENT

1. Human Resources

lack of awareness and knowledge on the use of media information media such as the use of computers in WAN networks, the use of web-based applications, have a great

60

1st International Conference on Engineering and Technology Development
(ICETD 2012)
Universitas Bandar Lampung
Faculty of Engineering and Faculty of Computer Science

ISSN 2301-6590

impact on the implementation of e-Government in Indonesia, e-Government demanded that the government and people familiar with the use of electronic tools that are the main tool in the implementation of e-Government, but especially the government is still reluctant to use such devices on account of the ignorance of many ways the use of high cost and they should spend.

2. Infrastructure

The main constraint in infrastructure is the internet access is not evenly distributed to each region, another constraint is the availability of servers and other devices that serve as a component of every activity in the e-Government, it did not rule out the persistence of corruption at government level which further reduces the availability of hardware.

3. Management

E-Government policy in each region is quite different, it is increasingly difficult for his entire system is integrated within the scope of e-Government, prbedaan this policy back on the availability of human resources and infrastructure.

III. OBSTACLES SOLUTIONS E-GOVERNMENT

1. Human Resources

Based on data from the Effective Measure, a firm that specializes in the measurement of web statistics, as many as 61.88 percent of Internet users access via mobile phones Indonesia. While 38.12 percent access the Internet instead of phone, still using the data from the Effective Measure, internet users in Indonesia in 2011 reached 39.1 million people (ranked 8th in the world). An examination of these data, the mobile internet users in Indonesia is about 24,195,080 people.

From the above data can be seen that the use of information media that is connected to the internet is dominated by mobile devices, this may be one factor to enhance e-Government can be run through mobile devices.

2. Infrastructure

Mobile Internet devices that can be grasped like a cell phone or tablet offers easy access to the Internet for many people of Indonesia without having to rely on the availability of high speed broadband service at home, of course, if the e-Government can be at the right into the mobile form so people can easily perform accessing information.

3. Management

With the discovery of solutions to human resources and infrastructure will impact on management improvement.With the above exposure it can be concluded to further enhance the implementation of e-Government can be enhanced with e-Government can diakase via mobile devices or called m-Government

IV. M - GOVERNMENT

M-Government involves strategy and implementation of government services via mobile technology platform is used by m-Gov users, both citizens and employees spemerintah, the

benefit gained is to obtain services and information anywhere anytime (Kushchu&Kuscu, 2003).

The use of mobile technology and m-government applications to distinguish from any other developments in the public sector by using new technologies, including e-government. Based on various government studies mobile applica-tions (Yu &Kushchu, 2004), and its use in real practice (Cilingir&Kushchu, 2004), a differentiating factor can be identified in terms of better precision and ease in setting targets so that users can be determined also the right content to the user, more comfortable and the availability of access, user sertabasis larger and wider.

4.1 Advantages of the use M-Government

A. More convenient accessibility and availability
- M-Government improve online government services to the community through increased convenience it offers. residents can use online government services are not just "anytime" but also "idmana only".
- The mobile device is always alive. This is in contrast to computers that are not always in a state of life, most of the mobile device is always enabled. So that applications can be active when embedded in mobile devices.
- The mobile device is designed for portability. thus, the application can be designed to provide quick information to the user. An example is to send out alerts during emergencies.

B. More precision and personalization in targeting users in providing content
- A computer can be shared among different users, but mobile devices are designed for use by a single user. This means that personal information can be accessed by users through its mobile devices
- M-Government increase the acceptance, adoption, and use of online government services through more devices are easier to control public use.

C. Larger and broader user base (broad power range):
- M-Government reach more users via mobile devices, it certainly exceeds the number of cable internet users
- M-Government reaches a wide audience, including people who have no training or experience with computers and the Internet, but using mobile devices to communicate.

4.2 Model System M-Government

KlasRoggenkamp, raised the key question when we create a system based on m-Government, the question is based on two main considerations.

1) Mobility
There are three things that determine the degree of mobility of a system that is
- Technology (the technology to be used include equipment, users, service, and session)

1st International Conference on Engineering and Technology Development
(ICETD 2012)
Universitas Bandar Lampung
Faculty of Engineering and Faculty of Computer Science

ISSN 2301-6590

- Economics (from an economic standpoint the perludiperhatikan includes assessing the extent of effective and efficient, transactions)
- Sosiologikal (relating to the situation around the user)

2) Government

There are three things required of the government in the implementation of m-government

- Process (a process that is required in this case related to the regulatory rules set)
- Organization
- User (the user's readiness to m-Government

The key question that can be used is

- Terms of what will be implemented with mobility?
- Why use a mobile?
- The existence of service?
- What are the strategies and benefits

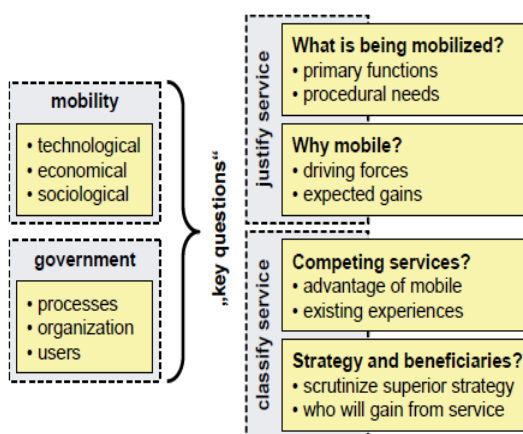To be able to help us to see the diagram below

Fig. 1. A key question in designing m-Government

V. SIMULATION DESIGN OF M-GOVERNMENT IN THE APPOINTMENT PROCESS LANGSUG IN THE PROCUREMENT OF SERVICE VEHICLES.

Along with the socialization of Presidential Decree no. 54, 2010 On Procurement of Goods / Services which generally focuses on the procurement needs of an efficient, transparent, open and competitive goods / services to the government that is affordable and of good quality, so with the sole purpose of Presidential Decree no. 54, 2010 provides instructions for Procurement Policy Institute, hereinafter referred to LKPP to make arrangements for the procurement procedure is simple, clear and comprehensive goods / services, so it can have a positive impact of public service settings associated with the procurement of government goods / services

But with strict rules for the government is not fully realized, corrupt practices are still often appears, this is because the negotiations between providers and those who do take place without the provision of direct control. There is a solution that can be developed to help the negotiations that

happen to be in tekam KKN practices, namely by using intelligent agents are implemented in a software that can be integrated between media websites and mobile devices like mobile phones. So that the negotiation process does not involve the people directly, and negotiations can take place without time and space is limited. So that the determination of winners can be better.

1. Mobility

There are three things that determine the degree of mobility of a system that is

- Technology
  The technology used is the website as a server-based applications that integrate with mobile phone
- Economy
  Its main purpose is to facilitate the process of negotiations so that there need not face to face between the provider and implementer of the tender.
- Sosiologic
  This web will be implemented in LPSE ((electronic procurement agencies) as one form of e-government is e-Procurement

2. Government

There are three things required of the government in the implementation of m-government

a. Process
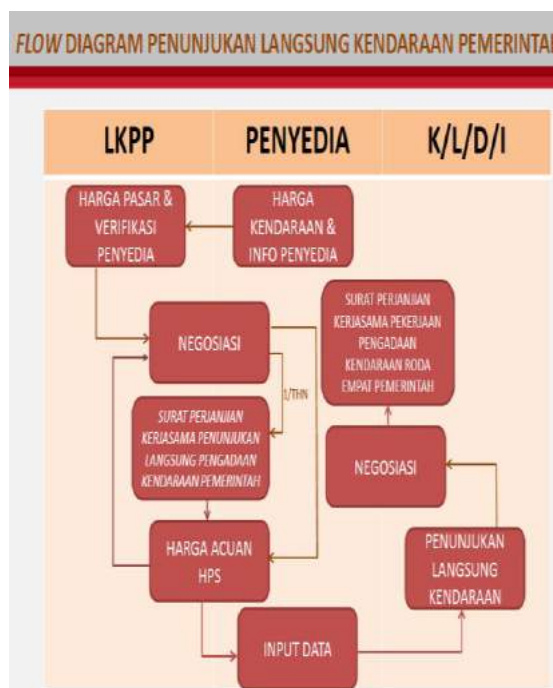 Here are the stages of the process is in the direct appointment of a motor vehicle

Fig. 2. Direct appointment process

1st International Conference on Engineering and Technology Development
(ICETD 2012)
Universitas Bandar Lampung
Faculty of Engineering and Faculty of Computer Science

ISSN 2301-6590

   b. Organization
      In this case there are several agencies such as:
*   Provider (the provider of motor vehicles)
*   LPSE (As the holder of a bridge between the web server and service providers)
*   Committee for the procurement of services

   c. Users
a. Administrator (*PPKom*)

   Administrators need a tool that is easy and efficient to do the approval of the commitment, both as individuals and objects. So in this study required an online-based media with good authority to give the privilege, as well as to make it easy for administrator approval committee, providers, and the package selected in accordance with the rules and regulations without the need to perform a complicated process. Other than the administrator (PPKom) also requires all facilities that support the manipulation and data storage administrators are well structured and easy data collection.

   b. Providers

   Providers of service vehicles are in essence acting as clients and participants, requires a performance system that is easy and has a high portability, and security authorities have a unique and privileged providers. Apart from that, the provider also requires good facilities, and transparent to participate in the desired package easier and more efficient in terms of time and transportation. Also needed a means to reduce the occurrence of irregularities in the process of negotiation that is face to face, and therefore needed a tool that makes it easy to negotiate and has a high portability as communication through mobile phones, PDA, or mobile internet. Providers also need a means of transfer of data to transmit data in discrete and safely reach its destination and has a good track record.

   c. Committee

   Committee for the procurement of service vehicles, having analyzed its needs, it was found that the need for a system that has the authority to deliver safe and open procurement package desired service vehicles in accordance with applicable regulations. The committee requires the system to create a package that is online and instantly so that it can be approved by the admin and followed by an efficient provider in the speed of the process. In addition the committee requires an accurate measurement method for determining the winner of the procurement package of service vehicles in a more accurate and precise without any doubt will happen deviation of the parties who are not responsible, and also needed a means to convey the decision of the winner.

The key Questions
   1. Terms of what will be implemented with mobility?
      Being implemented is a process of negotiation, the following is an overview of negotiability activity depicted in the diagram

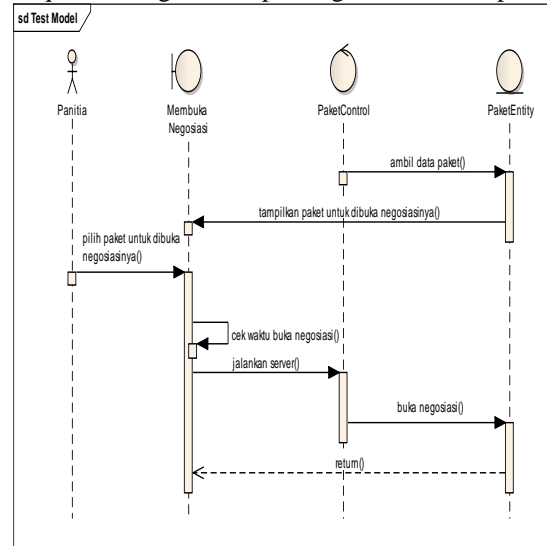a) Sequence Diagram to open negotiations with providers

Fig. 3. Sequence diagram to open negotiations with providers

b) Sequence Diagram to negotiate with the committee
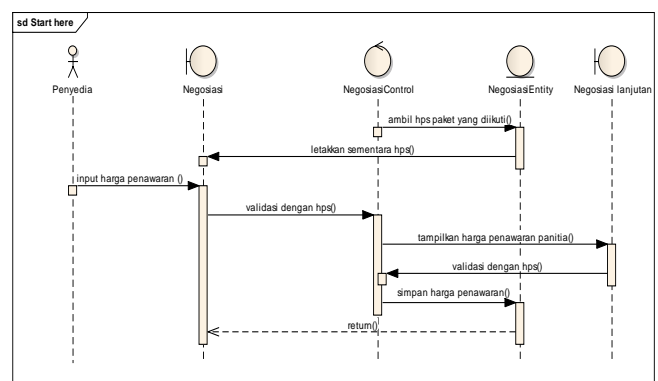

Fig. 4. Sequence diagrams to negotiate with the committee

c) Activity Diagram for negotiations with providers for mobile applications based on mobile agent concept.

   In the activity of diagram describes the activities to be performed by the provider of service vehicles to negotiate with the machinery of the committee negotiating the procurement of service vehicles.
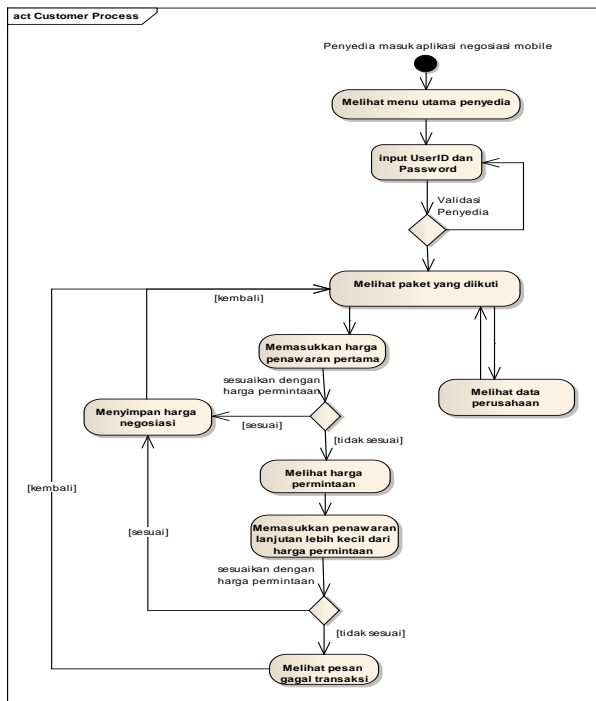
1ˢᵗ International Conference on Engineering and Technology Development
(ICETD 2012)
Universitas Bandar Lampung
Faculty of Engineering and Faculty of Computer Science

ISSN 2301-6590

Fig. 5. Activity Diagram for negotiating provider

`2. Why use a mobile?

Negotiations are conducted in person between the organizers and providers (dealers) caused frequent occurrence of unfair competition between dealer service vehicles so often happens Corruption, Collusion and Nepotism (KKN), and monopoly in the procurement of service vehicles for the government. Therefore, the process of negotiations carried out in mobile applications and negotiations take place between the provider and the engine in this application is given artificial intelligence.

3. The existence of service?

Service conducted by LPSE, which have the infrastructure such as pc server, and Internet networks.

4. What are the strategies and benefits

With the negotiations being implemented by the mobile application benefits:

1. Negotiations can take place any time and directly to the people associated with these negotiations.
2. Not required insrastrukturwith a large internet bandwidth requirements.
3. Avoid corruption due to ongoing negotiations between the provider and the engine.

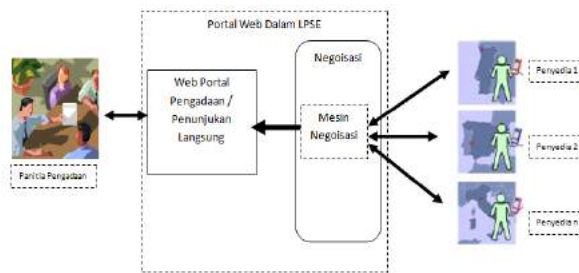## VI. M-GOVERNMENT SYSTEM DESIGN ON DIRECT

Fig.

6. M-Government system design on direct appointment

In the picture above shows the existence of an uninterrupted process of the procurement committee and providers, through the intermediary LPSE as a controller and unit service.

VII.   CONCLUSION AND SUGGESTIONS

7.1   Conclusion

The existence of m-Government is diutuhkan in the implementation of electronic-based governance system, M-Government has many benefits, especially in facilitating the communication of government to the community and vice versa. This poweful, eliminating the boundaries of space and time as it can be accessed anytime and anywhere, and this technology is very familiar with the residents. In addition, if already applied the quality and type of m-Government services could be improved This is of course, can enhance the competitiveness of the nation in sustainable development.

7.2   Suggestions and Future work

Further studies are needed on the implementation of m-Government especially in the preparation of human resources to develop applications relating to the application m-Government.

Business modeling and systems can be developed by looking at some examples of Countries that have implemented m-Government.

REFERENCES

[1] Kushchu, I., &Kuscu, M. (2003). From e-government to m-government: Facing the inevitable. In the *Proceedings of the 3rd European Conference on e-Government(ECEG 2003)*, Dublin, Ireland, July 3-4.

[2] Cilingir, D., &Kushchu, I. (2004). E-government and m-government: Concurrentleaps by Turkey. In D. Remenyi (Ed.), *European Conference on E-Government(ECEG 2004)*, Trinity College, Dublin, June 17-18 (pp. 813-821). Departmentof the Taoiseach, Dublin, Ireland; Reading, UK: Academic ConferencesInternational.

[3] Yu, B., &Kushchu, I. (2004). The value of mobility for e-government. In the *Proceedings of European Conference on E-Government (ECEG 2004)*, TrinityCollege, Dublin, June 17-18 (pp. 887-899). Department of the Taoiseach,Dublin, Ireland; Reading, UK: Academic Conferences International.

[4] Roggenkamp. K. (2004). "It's the Mobility, Stupid": Designing Mobile Government. In the *Proceedings of European Conference on E-Government (ECEG 2004)*, TrinityCollege, Dublin, June 17-18 (pp. 60). Department of the Taoiseach,Dublin, Ireland; Reading, UK: Academic Conferences International.