MyMosqueNet2Cloud Collaborative System: A network of mosques towards eradicating poverty in Malaysia

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Abstract. This paper proposes a conceptual collaborative system based on the deployment of the (a) Quadruple Helix Model (QHM), where a country’s economic structure lies on four actors namely: academia, industry, government, and citizen, and the economic growth are generated by the clustering and concentration of talented and productive actors; (b) “Whole-of-Government” (WoG) implementation that demands for a collaborative and co-operative arrangement of open consultation, open data, shared knowledge and expertise, consolidation of shared services and enhanced horizontal application across government agencies; and (c) citizen-centric Network-of-Mosques (NoM) – and focusing on achieving a higher quality of life and sustainable prosperity for all poor families in Malaysia. The proposed system, called MyMosqueNet2Cloud Collaborative System, will be accomplished through leveraging the advances in cloud computing and mobile applications. The System will expand the use of the eKasih database, managed by the Department of Social Welfare (DSW), and it can be used and updated by all other relevant government agencies. This proposed collaborative inter-organizational system is to enable a consolidated approach for government agencies, NGOs, the private sector and individuals in building up a single and trusted national database based on the poor families in Malaysia. This database, proposed to be co-owned and managed by government agencies such as DSW and Department of Islamic Development Malaysia (JAKIM) through NoM, can be used and updated by all other authorized organizations and individuals in making a consolidated contribution in nurturing and developing the poor families. Thus, this System shall eliminate unnecessary silos in efforts as well as duplication in data. The expected outcome of the System will be an enhanced quality of life for the poor families through the execution of government-led programs such as eKasih and 1Azam, with close collaboration with other QHM actors.

Keywords: Quadruple Helix Model, “Whole-of-Government”, Network-of-Mosques, collaboration, quality of life, poor family, information systems, cloud computing.

1. INTRODUCTION

Poverty reduction has become the most important issue of almost all countries around the world. The United Nations through its General Assembly (UNGA) has started the effort to formulate the Millennium Declaration since 1998. Finally, in September 2000, the UNGA, represented 189 countries, unanimously adopted the Millennium Declaration which consist of eight goals, 18 targets and 48 indicators which are known as the Millennium Development Goals (MDGs). One of the goals is to eradicate extreme poverty and hunger. The target of this goal is to halve the poverty rate in the period of 1990 to 2015 that is the proportion of people
whose income is less than USD1 a day. The second target is to halve the proportion of people who suffer from hunger between 1990 and 2015. Poverty is an economic condition of lacking basic necessities needed to lead a reasonable quality of life. These basic necessities include money, food, water, education, health, and shelter. According to the World Health Organization, poverty is often defined in absolute terms of low income – meaning to say, people who live on less than US$2 a day (World Health Organization, 2013). Again here, it has been reported that at least 80% of humanity lives on less than $10 a day income. Additionally, the UNICEF reported that about 22,000 children die each day due to poverty and they “die quietly in some of the poorest villages on earth, far removed from the scrutiny and the conscience of the world (Anup, 2013).

In Malaysia, poverty eradication has been the primal priority of the Government (Sohag, 2005) where policies and programs such as the New Economic Policy (NEP) was introduced and implemented starting in 1970. The poverty eradication programs have resulted in drastic reduction in poverty and lessened the income inequality while achieving rapid economic growth and maintaining racial harmony. The NEP from 1970 to 1990 and subsequent policies have markedly reduced poverty in Malaysia, where poverty headcount ratio at national poverty line in Malaysia is reported as follows 3.8% in 2009, 3.6% in 2007, 5.7% in 2004, 15.5% in 1989 (World Bank, 2013). Thus, “Poverty Eradication” is an indispensable aspect of millennium development goals. In Islam, a person is considered poor if he/she does not possess sufficient necessities to fulfill his/her basic needs. It is important to note that the responsibility of Muslims are to help one another, apart from observing regular prayers, paying Zakat, and obeying Allah and His Messenger (Khan, 2012). Having these duties in mind, the next question is what should be the effective strategy in reducing poverty among the Muslim Ummah? Malaysia, with thousands of mosques, should therefore seriously consider leveraging this Network-of-Mosques (NoM) in improving the “Poverty Eradication” program (Mun, 2011). The Mosque had many uses during the early times of Islam - as a headquarters for the state, a hospital, a shelter for the poor and needy, an information point, a place of relaxation and siesta, as well as being a place of prayer and contemplation, and guiding the Muslims on how to live based on Islam, beginning from an individual to the family, community, country and international(Wahid et al, 2011).

For this reason, this paper is proposing to utilize the potential strength of the Network-of-Mosques (NoM) in helping the poor families in gaining easy and effective access to government “Poverty Eradication” programs such as eKasih or the database system which contains the information of the poor families in Malaysia. However, there are poor families that have not registered under e-Kasih program. This is due to the fact that most of these unregistered poor families are either not educated to fill the e-Kasih forms or they do not know their rights and how to communicate with the relevant government agencies for assistance.

2. PROJECT BACKGROUND

“The word mosque (masjid) is grounded on three Arabic words (Wahid et al, 2011): misjad that literally means to bow down; masjad which connotes a man who touched his forehead during prostration and misjid simply put is a small mat” (Khan, 2012). To concur with the forgoing, it is pertinent to add here that the etymology of the word mosque originated from the word ‘masjids’ which simply put implies the place where people prostrate to God; hence it is referred to the House of Allah (Bait Allah), which is a place where only Allah is worshipped and remembered: “In houses, which Allah has ordered to be raised, in them His Name is glorified in the mornings and in the afternoons or the evenings” (Quran, 24:36).

Thus, the Mosque represents the establishment of a Muslim community; it is the nucleus that creates the characteristics of the Muslim society (Khalit, 2011) as well as center-of-excellence for the Ummah. In addition, the Mosque in Islamic history was the focal point
where political, social, and religious activities were holistically blended and implemented in realizing the meaning of “Mercy to all the worlds” - well-being in this world as much as the life hereafter. Thus, the role of mosques has always been instrumental in the social-moral, economical, and political uplift of the Muslim community (Religion.Islam, 2008). It is therefore incumbent that the Muslim Ummah should endeavor to reinvigorate and revive the roles of the mosques in every ramification of life (Al-Hawali, 2013). This will enable the Muslim Ummah to lead the way, enlighten the future, and make the world a better place for all mankind by realizing the meaning of “Mercy to all the worlds” if the roles of mosques are reinvigorated and reformed (Auda, 2011). To this end, it is noteworthy to say that the mosques in Malaysia, e.g. Masjid Wilayah Persekutuan, are not only used for worshiping, but also it provides other value-added services and facilities such as Qur'an classes, hospitals' visits program, programs for single mothers, health programs, funeral preparation programs, etc. (Afridi, 2011). According to (Abd Muthalib et al, 2010), the Mosque is also used as the place to collect charity and waqaf in the forms of assets such as land and buildings. However, (Abd Muthalib et al, 2010) contended that the waqaf have raised issues where mosques do not have the expertise in managing and capitalizing waqaf assets. In the same vein, [Abd Muthalib et al, 2010](Ad-Darsh, 2009) asserted that during the era of the Prophet Muhammad (S.A.W), mosques were used as the government center, law center, the information and communication center, charity center, nursing center as well as community interaction center (Abd Muthalib et al, 2010) (Ad-Darsh, 2009). According to (Ad-Darsh, 2009), he noted that the mosque was also a center for education during the time of the Prophet. Furthermore, Islam strongly believes that mosques are not just “places of prayers” rather, mosques are in modern parlance – community centers (Auda, 2011). Additionally, it is incumbent upon every Muslim community to have a Mosque where all the individual and community activities are anchored. This is consequent on the fact that a mosque acts as the place upon which the minds, beliefs and actions of every individual Muslim are made nurtured and corrected, thus, creating an “environment of virtue and knowledge” like the environment prevailing during the time of Prophet Muhammad (S.A.W). This environment of “virtue and knowledge” shall make the world a better place for both Muslims and non-Muslims (Saabin, 2010).

The NEP 1970-1990 and subsequent policies have reduced poverty in Malaysia, where poverty headcount ratio at national poverty line is reported as follows 3.8% in 2009, 3.6% in 2007, 5.7% in 2004, 15.5% in 1989 (World Bank, 2013). The issues of poverty reduction have gone to another crucial level as the Malaysian government’s target is to achieve the high income country by 2020. The eKasih or Sistem Maklumat Kemiskinan Negara is a database system which contains the information of the poor family for the whole Malaysia. The objective of the system is to help the government in planning, implementing and monitoring the “Poverty Eradication” programs. As at 14 January 2011, there were 67,033 (0.82%) households registered as poor in the eKasih database. The information from eKasih will be used as a base for providing aids or projects’ involvement in 1Azam, another government “Poverty Eradication” program, programmed for the poor families.

3. PROJECT OBJECTIVES

The main focus of this paper is to propose a collaborative system called MyMosqueNet2Cloud. This system shall blend and leverage on the strength of three key concepts, namely: (a) Quadruple Helix Model (QHM), a country’s economic structure lies on four actors namely: academia, industry, government, and citizen, and the economic growth are generated by the clustering and concentration of talented and productive people (Afonso et al, 2010); (b) “Whole-of-Government” (WoG) concept that demands for a collaborative and co-operative arrangement of open consultation, open data, shared knowledge and expertise, consolidation of shared services and enhanced horizontal application across government agencies; and (c) citizen-centric Network-of-Mosques (NoM) – and focusing on
achieving a higher quality of life and sustainable prosperity for all poor families in Malaysia. As citizen-centric institutions, the NoM may facilitate the government in capturing data of the poor families in the eKasih database. Secondly, the NoM can be mobilized in encouraging the involvement of these poor families in the government 1Azam programs. In serving the poor families throughout Malaysia, MyMosqueNet2Cloud Collaborative System is proposed to leverage on the concept of QHM, WoG, and NoM, where:

- MyMosqueNet2Cloud System is proposed to be led, owned and operated by the Department of Social Welfare (DSW) and the Department of Islamic Development Malaysia (JAKIM) in close collaboration with all relevant government agencies such as Implementation Coordination Unit of the Prime Minister Department (ICU), Amanah Ikhtiar Malaysia (AIM), the State Islamic Religion Council (SIRC) through the State Islamic Religion Department (JAIN) and Zakat Centers, and universities.
- This collaborative system will demand other QHM actors such as banks, NGOs and companies to work jointly together in mutual synergy and share resources with DSW/JAKIM in providing quality and concerted services to the poor families based on shared databases, information and knowledge.
- The NoM members, digitally connected, will therefore function as the avenue in capturing and updating data on the poor families as well as encouraging active participants in Government-led “Poverty Eradication” programs such as eKasih.
- MyMosqueNet2Cloud Collaborative System shall be made available to all NoM members throughout the country.
- ICT resources such as databases, knowledge, expertise and computing facilities will be shared amongst the relevant QHM collaborators through the Cloud computing platform and mobile applications.

4. LITERATURE REVIEW

The government of Malaysia established the “Performance Management and Delivery Unit” (PEMANDU) under the Prime Minister’s Department in 2009 to supervise the execution, review the progress, assist as well as sustain the delivery and drive the progress of Government Transformation Programme (GTP) and Economic Transformation Programme (ETP) (Pemandu, 2013). This is an extension of the NEP introduced and implemented in 1970 to 1990. The objectives of GTP are to transform the government to be more effective in its delivery services and accountable for outcomes for society and also to achieve Vision 2020 that is for Malaysia to become a fully developed nation (Malaysian Innovation Foundation, 2012). While for ETP is an effort to transform Malaysia into a high-income nation by 2020. PEMANDU has been mandated to catalyze bold changes in public and private sector delivery, support the ministries in the delivery planning process and provide an independent view of performance and progress to the PM and ministers (Pemandu, 2013). In relation to the ETP, PEMANDU has been tasked with facilitating the implementation of the Entry Point Projects (EPPs) and Business Opportunities (BOs) that have been identified to ensure that Malaysia is transformed into a high-income nation by 2020. To allow PEMANDU to carry out its responsibilities effectively, it combines the best talent from both the civil service and private sector (Pemandu, 2013).

Besides PEMANDU, Special Innovation Unit (UNIK) was established in 2010 under the Prime Minister’s Department as the central for innovation in Malaysia through identifying the solutions for the gaps in the innovation eco-system and to observe the areas of eco-system which are the government, universities, the education system, funding as well as skills (Agensi Innovasi Malaysia, 2012). National Innovation Agency (NIA) was then established as the continuation from UNIK and it will act as the supporter to implement the innovation
related to the Prime Minister (Agensi Innovasi Malaysia, 2012). NIA aims to plan national strategies and directions related to innovation, organize, cooperate in and coordinate the performance of activities with the public private sectors to stimulate innovation in Malaysia; conduct enquiries, surveys and analyses of data, research and development relating to innovation and the national innovation eco-system, promote and facilitate investment activities and initiatives by the public and private sectors in relation to innovation, promote the culture of innovation in the public, private and education sectors in Malaysia, advise the Government in matters relating to innovation, and make recommendations relating to the innovation component of existing or future strategic national projects (Agensi Innovasi Malaysia, 2012).

The eKasih system is a database system for poor families under the Ministry of Women, Family and Community Development. It was created at the national level to help the government to plan, implement and monitor poverty program (Ministry of Women, Family and Community Development, 2012). The data in the eKasih system is from the census of poor household (BIRM) conducted by the Department of Statistics. Other than the census, the households who meet the criteria based on the poverty status of household income per capita poverty line income (PLI) in 2007 which is less than RM 2300 a month can register themselves through www.ekasih.gov.my (Ministry of Women, Family and Community Development, 2012).

There is another programme managed by the government via AIM known as 1Azam. The 1Azam provides opportunity for poor families in generating income via giving them opportunity in four areas, namely: (1) Azam Kerja for opportunity to generate income through work placement, (2) Azam Tani to generate income based on agriculture, (3) Azam Niaga to generate income through small business, and (4) Azam Khidmat to generate income through services (Ministry of Women, Family and Community Development, 2012). 1Azam uses the poor families database from eKasih system.

5. PROPOSED SOLUTION

In order to realize this goal, the Mosque should employ the Quadruple Helix Model (QHM) in collaboration with the Agensi Inovasi Malaysia (AIM) and WoG concept of ICT implementation across the country and to be supervised by the Malaysian Administrative Modernization and Management Planning Unit MAMPU (MAMPU, 2012). The WoG concept is to map the financial and non-financial contribution of federal organizations and to align their program activities to a set of high level outcome areas defined for the government as a whole.

This project is feasible because there is a model that has been implemented in the United Arab Emirates (UAE). The UAE implemented a network to connect all Mosques nationwide in order to synchronous 1 AZAN. The Malaysian government also already implemented a project to assist low income families with life expenses as well as marketing their products. Therefore, this project mainly aims at integrating the NoM with governmental network in order to improve the scalability of their poverty eradication projects, since Government's programs cannot reach all corners. With this project therefore, we strongly believe that the Mosque can help in this matter. This will not only assist the Government in the success of their projects but also to ensure data integrity where a single and trusted view of data is established. The proposed solution includes:
It is expected that this conceptual paper shall adopt the Quadruple Helix Model (QHM) as indicated in figure 1 above. The collaboration is among four actors which include: Government, Academia, Industry and Citizen. These four (4) actors have very important roles to achieve the system objectives in the campaign to eradicate poverty from the Muslim Ummah. All the four (4) actors need to work together. The proposed owners of this system are JAKIM and DSW, working in close collaboration based on WoG concept with other Government agencies, Academia, Industry and Citizen.

5.1 Governmental Departments

The governmental agencies by using the collaboration based on WoG concept can assign specific tasks to Mosques in order for them to key-in information of needy people who are unreachable by the government due to their illiteracy and the fact that some of them are residents mostly in remote areas. With this, they can get paid by the government monthly to help them with their life’s expenses. The Mosque administration can play significant role in this regard because they have knowledge about the status of the families in the society.

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<th>No.</th>
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| 1.  | Ministry of Women, Family and Community Development                    | • Increase low income people’ living standard  
| a)  | Social Welfare Department of Malaysia (JKMM)                           | • Increase to be more women’s ability contributed to development of the nation through preparation of the support service and programmes to build capacity that is efficient and effective.  
| b)  | Department of Women Development                                        | • Collaborate to manage 1Azam that consists of four types of programme which are Azam Niaga, Azam Tani, Azam Kerja and Azam Khidmat.  
| c)  | Amanah Ikhtiar Malaysia(AIM)                                           |                                                                                          |
| 2.  | Implementation Coordination Unit, Prime Minister Department (ICU)       | Manage eKasih system or Sistem Maklumat Kemiskinan Negara in Malay                      |
| 3.  | The State Islamic Religion Council (SIRC) through                      | • Have the authority to provide and manage welfare homes for orphan and other group of people. |
the State Islamic Religion Department (JAIN) | monitor the flow of Zakat and mosque
- Plan and carry out any activity which is purposed to upraise standards of the Muslims.
- Work towards developing the socio-economy of Muslims where the Council Board of Scholars

5. Department of Islamic Development Malaysia (JAKIM) | Monitor and provide recommendations on NoM activities align to the Islamic and national interests.

6. The National Registration Department of Malaysia | Ensure the citizenship of the “poor family” that are registered in the eKasih database

7. Council of Trust Indigenous People (MARA) | Preparing the program for entrepreneur and also as the advisor for new entrepreneurs

5.1.2 Academia
For example International Islamic University Malaysia (IIUM) is to provide education in entrepreneurship programmes, e-commerce development, etc to raise the income of the low income families so that they can be independent

5.1.3 Private/Non-Government agencies /Industry
Bank Islam is in charge of financial assistance, donors and system advisor.

5.1.4 NoM
The NoM members, digitally connected, will therefore function as the avenue in capturing and updating data on the poor families as well as encouraging active participants in Government-led “Poverty Eradication” programs such as eKasih.

5.2 Process
In order to create the system, it will adopt a QHM and WoG concept to share the data, knowledge, expertise as well as services that will eliminate duplication between the eradication of poverty program in the government agencies that will help the eradication of poverty program to be more effective and efficient by using the Mosque as the center.

5.3 Technology
Technologies that will be used in this system are: The database where there will be a single Database Management system (DBMS) like Oracle, My SQL etc. to ensure data integrity; Mobile computing to ensure easy access to the MyMosqueNet2Cloud Collaborative System; and Cloud computing which is described as a pay-per-use model for enabling on-demand network access to a shared computing resources (e.g., networks, servers, storage, applications, services) with minimal management effort. Cloud computing basic service delivery models like Software as a Service (SaaS), Infrastructure as a Service (IaaS) and Platform as a Service (Paas) will be applied in this QHM.
5.4 Change Management (CM)

MyMosqueNet2Cloud Collaborative System will use CM programs to manage the system as it provides method to address change in business processes by using ICT in delivery services in the business (MAMPU, 2012). By implementing Leavitt’s model (Figure 3) in MyMosqueNet2Cloud Collaborative System will make the CM more effective. Leavitt’s model suggests that every organization system consists of four components which are people, structure, technology and task. People in the model refer to the four actors in QHM which are Government, Academia, Private sectors and Citizen. While for structure is the hierarchical structure in the different management levels that are suitable for WoG concept as it includes many government agencies in Malaysia and also other QHM actors. The technology in the model refer to the technology that will be used in MyMosqueNet2Cloud Collaborative System such as database and mobile computing that required to implement the task of MyMosqueNet2Cloud Collaborative System.
6. FUTURE WORK

It is hoped that this conceptual paper motivates the actors of the QHM collaboration, especially DSW and JAKIM through WoG implementation, to start working towards shared goals and integrated IS-based solution in meeting the needs of the Poor. The development and implementation of MyMosqueNet2Cloud Collaborative System demands for:

(a) The streamlining of government agencies’ Information System (IS) architecture, where efforts are driven to simplify systems, remove duplication and silos, and leverage on technologies that enhance the government delivery of services to the Poor holistically,

(b) The consolidation and optimization of the government’s ICT resources namely people, applications, technology, facilities, and data,

(c) Intensifying inter-agency collaboration towards fostering WoG public service, where the government agencies work across portfolio boundaries in a collaborative and co-operative environment of open consultation, open data, shared knowledge and learning, consolidation of shared services and enhanced horizontal applications, and

(d) The NoM acting as the “front desk” service delivery to the Poor. Thus, enhancing the roles of a Mosque – a place for Worship/"Ibadah” and as a community center for the local Muslims as well as for the Malaysian in general.

The strategic intent of this paper is for the government agencies such as DSW and JAKIM, to consider the proposed ideas, and if deemed necessary, deliberate, refine, plan, develop and implement through the pervasive use of IS for WoG delivery by unlocking the full potential of government’s IS with a focus on value creation and optimization of government resources.

7. CONCLUSION

One of the Quran’s verses has mentioned that “And let there among you be a group of people who invite to all that is good, who enjoin what is right and forbid what is wrong” (3:104). This verse outlined the way how societies or communities should be organized and run. This conceptual MyMosqueNet2Cloud Collaborative System demonstrated the strength of collaborative concepts such as QHM and WoG, blended with social entrepreneurship concept that can be deployed in serving and enhancing the quality of life of the Poor. At the same time, the QHM actors utilizing Network of Mosque (NoM) as an effective service delivery channel to the poor families.

MyMosqueNet2Cloud Collaborative System developments augur well for new government suite of service offerings to the Poor that support a collaborative and co-operative arrangement of open consultation, open data, shared knowledge and expertise, consolidation of shared services and enhanced MyMosqueNet2Cloud Collaborative System services. MyMosqueNet2Cloud Collaborative System application can be replicated, adapted and roll-out to other countries. It is also suggested for MyMosqueNet2Cloud Collaborative System to be part of IslamGRID portal, operated and co-owned by JAKIM and DSW.
References


