Impact of information and communication technologies (ICTs) for social change: a case study of Qaryah Thayyibah Learning Community

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By

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Statement of Originality

The work presented in this thesis, is to the best of my knowledge and belief, original contribution of the author, except as acknowledge in the text. It has not been submitted either in whole or in part, for a degree at this or any other university or institution.

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Abstract

This research aims to investigate the impact of information and communication technologies (ICTs) for development and social change in a rural telecentre in Indonesia. It attempts to contribute to the literature of ICTs for development and social change, in the field of analysis of a community-driven ICTs initiative and the analysis of an Indonesian telecentre, two research areas that had not been extensively explored. A qualitative case study approach was chosen to reveal the impact of ICTs in the case of Qaryah Thayyibah Learning Community, a school with a telecentre that in founded, run and funded by the community of Kalibening Village in Central Java, Indonesia. Through the application of the stakeholder theory, significant findings related to impact of ICTs for social change of the Qaryah Thayyibah Learning Community were revealed. These findings include patterns of access and participation of stakeholders in relation to ICTs. While ICTs had impacted the students of Qaryah Thayyibah, its impact had not yet been significantly experienced for the wider community outside of the school. Another important finding emerged from the stakeholder analysis is the influence and value of the local champion in the establishment and sustainability of the ICTs initiative. Findings suggest that the Qaryah Thayyibah Learning Community, with its resource centre concept and principles, was on its way to achieving community empowerment.

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CHAPTER 1 INTRODUCTION

1.1 Introduction

The use of information and communication technologies (ICTs) in development and social change efforts (ICT4D) is becoming widespread in the hope that providing ICTs can bring about social and economic benefits to promote development. One of the ways of providing access to ICTs is by setting up a shared facility i.e. the telecentre in remote, rural or other disadvantaged communities.

1.2 Aims of study

This study seeks to examine the impacts of information and communication technologies (ICTs) on the community of a school-based telecentre in a rural village in Indonesia.

The use of ICTs in development and social change efforts is based on the idea that ICTs have a crucial role in improving living conditions of communities in the developing world. But in what ways do ICTs contribute in achieving development and empowerment in particular? To answer this question an analysis of the impact of ICTs is required.

1.3 Statement of the Research Problem

Information on the use of ICTs for development is widely available, but analyses of their impacts are not as common. A sound evaluation on how ICTs play out in development efforts particularly in rural areas – on how rural communities can maximise the benefits of ICTs – is still a challenge (Melkote and Steeves, 2001). Impact analyses of telecentres – as a form of utilising ICTs for development – have been done by various researchers from different bodies and agencies (see, for example, Gomez and Hunt, 1999; Heeks and Molla, 2009; Whyte, 2000). However the literature mainly reports impacts of telecentres that are set up by external bodies such as foreign donor, government, or NGOs – even if the principle of the telecentre is to be as local as possible. These donor-funded telecentres do not seem to perform as well as a

community-owned one (O Siochru and Girard, 2005). Meanwhile, the reporting of a telecentre that is community-initiated has not been widely reported, perhaps because of the lack of networking of these communities to disseminate their stories and experiences to the ICT4D community and the wider population.

In terms of location, an analysis of telecentres in particular countries such as Indonesia is also not extensively available. Although Indonesia as a developing nation has a wide rural area and population that serves as an excellent laboratory for these development efforts, research done on these efforts are not extensively reported, even though there are a plethora of these kinds of efforts dispersed throughout the country.

Based on the examination presented above, the research issue that emerged was that there is little evidence of the impacts of ICTs for development particularly through the establishment of community-initiated telecentres in rural Indonesia. This leads to a statement of the research problem:

Does the use of ICTs in the Qaryah Thayyibah Learning Community in rural Indonesia have an impact on the lives of its students and the community?

The research investigates how this community-initiated effort to harness ICTs for development through the establishment of a telecentre in their rural village has impacted on their community in relation to achieving development goals. The community refers to the Qaryah Thayyibah, a learning community devoted to education and empowerment of their rural village that is located in Central Java, Indonesia.

1.4 Research Questions

The questions that the research attempts to answer are:

1. How has the use of ICTs in Qaryah Thayyibah affected the lives of its students, especially in its goal of achieving empowerment?

2. Does the existence of Qaryah Thayyibah also affect the lives of the people of Kalibening Village and how does it relate to the application of ICTs in the village?
3. The use of ICTs in Kalibening Village is community-initiated as opposed to externally-funded. Does this make a difference on the empowerment of the community?

In answering these research questions, the thesis will embark based on stakeholder theory and stakeholder analysis as the framework of the research, while implementing the case study approach with qualitative methodology in obtaining and analysing the data.

1.5 Organisation of the thesis

In the presentation of the research, the thesis has been organised into six chapters. This chapter has outlined the research purpose and aims as well as rationale for undertaking the research. The chapter also introduces the research problems, and questions to be answered in this study.

Chapter 2 provides a review of the literature on ICTs for social change, highlighting issues that deal with the use of ICTs in development efforts and then taking into account the history and development of telecentres, as well as a review of the impact analysis of these projects. After a broad overview of ICTs in development is presented, the review will narrow down to describe ICT4D and telecentre development in the context of the location being studied by giving an overview of the development of ICTs in the country of the case study, Indonesia, and of the Qaryah Thayyibah Learning community which is the focus of the case study.

Chapter 3 describes stakeholder theory and stakeholder analysis as the framework for the research and the research methodology by presenting a discussion on the case study approach and the qualitative method that are used in obtaining the data and the analysis of the data.
Chapter 4 describes the case study results obtained through semi-structured interviews and direct observations as well as an examination of secondary data collected at the site. Meanwhile, Chapter 5 provides discussions of the findings apparent in the previous chapter in relation to the problems and questions posed earlier in Chapter 1. Chapter 6 gives a summary of the findings and also recommendations for further research as well as reflection of this research.

CHAPTER 2 LITERATURE REVIEW

2.1 Introduction

This chapter provides a literature review on the issue of ICTs for development and social change. It begins by providing definitions of key terms discussed in the research. As the basis of ICTs for social change, the concept of communication for social change will be reviewed, leading to describe ICTs for development and social change, focusing on impact analysis of ICTs for social change projects. To provide a background understanding of the reseach setting, an account of the development of ICTs in Indonesia will also be provided. In summary, the review will emphasise why this research is needed.

2.2 Definitions

Information and communication technology (ICT) refers to a medium which captures, processes, stores, and communicates information (Melkote and Steeves, 2001). What constitutes as ICTs constantly change as new technologies evolve and services are created. Albeit, the typical connotation of ICTs is related to modern electronic technology, such as radio, television, telephones, cellular phones, communication satellites, personal computers, wireless networks and the Internet (Melkote and Steeves, 2001; Toyama and Dias, 2008).

In general, the term *communication for development* refers to "a process of strategic intervention toward social change initiated by institutions and communities", and also incorporating "the intentional use of communication technologies and processes to advance socially beneficial goals" (Wilkins and Mody, 2001: 385). The Communication for Social Change Consortium defined communication for social change as:

> a process of public and private dialogue through which people themselves define who they are, what they need and how to get what they need in order to improve their own lives. It utilises dialogue that leads to collective problem identification, decision making and community-based implementation of solutions to development issues.

It is important to note that the definition of *communication for development and social change* will depend on how its component, *communication* and *development* or *social change*, are defined (Melkote and Steeves, 2001).

Information and communication technologies for development and social change, sometimes abbreviated as ICTD or ICT4D, is the general term for the application of ICTs in socioeconomic development (Toyama and Dias, 2008). In this report, I will use the terms *ICTs for development*, *ICTs for social change* and *ICTs for development and social change* interchangeably, all referring to this definition.

Telecentre is a place which offers public access to ICTs (Roman and Colle, 2002; Proenza, 2001). Oestmann and Dymond (2001: 3) defined the telecentre as "strategically located facilities providing public access to ICT-based services and applications". The telecentre is often set up in rural, remote or otherwise disadvantaged communities in the hope that access to ICTs through the telecentre will promote development (Latchem and Walker, 2001).

2.3 Theories of Communication for Social Change

The history of harnessing ICTs for development purposes is related to the idea of communication being an important aspect of social change. In the early development of communication for social change, communication was crucial in development as it was needed to make 'traditional' societies become aware of what it means to be modern through communication channels such as mass media. This was how communication viewed in the modernisation paradigm, in which the belief was that underdeveloped societies needed to change their traditional attitudes in order to develop and become modern, facilitated by the mass media whose role was to transfer information on modern values and also serve as an index of change when these modern mass media channels and content were consequently adopted and developed in those traditional societies (Melkote and Steeves, 2001). Theorists such as Daniel Lerner (*The Passing of Traditional Society*, published 1958) and Wilbur Schramm (*Mass Media and National Development*, published 1964) greatly influenced the dominant paradigm of development which postulated that information was the missing link in the development chain where the mass media

served as a tool for providing that information to its users (Melkote, 2003). Everett Rogers, in his 1962 book *Diffusion of Innovations*, argued that besides the mass media, interpersonal communication was also important in developing societies by the way people adopt technology motivated by influential persons in their lives (Mody and Lee, 2003). The communication for social change model proposed by Lerner, Schramm and Rogers is linear, one-way and top-down. In 1976, Schramm and Lerner assessed the impacts of communication in national development in the world and it was found that the top-down development model was not effective, and that a bottom-up participatory development was needed (Mody and Lee, 2003).

Participatory development suggests that development is a process which takes into account the views of everyone involved, with a highlight placed on the participation of people at the grassroots levels. Participatory approaches in development emerged as a critique of the dominant paradigm of modernisation, calling for a more humane, egalitarian and responsive communication theories (Huesca, 2003). In terms of communication, participatory development favours a multiplicity of approaches that are non-linear, horizontal, and pluralistic, based on the context, needs and empowerment of oppressed societies at divergent levels (Melkote, 2003; Servaes, 2003). Paulo Freire was a central figure in the participatory communications field. Freire's (1974) thesis on people's development through conscientisation and ultimately empowerment facilitated by emancipatory dialogue, offered a new way of theorising and practicing communication for social change. Melkote and Steeves (2001:366) have defined empowerment as the means of people gaining control and mastery over social and economic conditions, political processes and over their own stories. Thus, in the participatory development communication model, the role of communication in facilitating social change is as a platform of knowledge sharing and fostering people's confidence and skills to tell their own stories and needs and as an advocate for realising the kind of change they want (Gumucio-Dagron and Tufte, 2006; Servaes, 2005).

2.4 ICTs for Development and Social Change

In the present era, introducing technology to underdeveloped societies, especially in rural areas, is still the common path to achieving development. This technology is now represented by ICTs.

Since the 1970s, there has been significant proliferation of harnessing ICTs for social change in developing countries (Melkote and Steeves, 2001). Two decades later, with the arrival of the Internet, ICTs were more than ever seen as the panacea to achieve development.

ICTs were seen to have many socioeconomic benefits which would enhance development particularly in rural areas. These benefits include providing information and networks for markets, supporting education and agricultural research and extension as well as telemedicine and health, creating employment and business opportunities, and providing a platform for facilitating social interactions (Rahman, 2007; Melkote and Steeves, 2001; World Bank, 2005a). The many benefits that ICTs offer attracted international development agencies, governments and nongovernmental organisations to fund and implement projects focused on using ICTs for promoting development and creating social change.

A popular form of ICTs for development projects is the setting up of a telecentre in areas where ICTs were a rarity. A telecentre is a place which provides public access to ICTs-based services and applications (Oestmann and Dymond, 2001; Proenza, 2001; Roman and Colle, 2002). The services and applications provided were usually in the form of telecommunication services (telephony, fax, Internet), office equipment (computers, printers, scanners, photocopiers), multimedia hardware and software (radio, television, video, digital cameras), and also meeting spaces for training and general community use (Oestmann and Dymond, 2001; Rennie, 2007). It is comparable to public telephone or Internet kiosks that were managed privately with commercial interests, although the telecentre often put forward the goal of development and social change of communities rather than monetary profits.

The telecentre movement was said to originate from Sweden in 1985 with the establishment of telecottages in areas experiencing barriers in participating in the information economy due to distance, cost, and low quality ICT facilities (Oestmann and Dymond, 2001; Roman and Colle, 2002). A decade later, it was adopted to serve rural communities in developing countries, mainly sponsored by international development agencies partnering with national governments, local NGOs and private sectors.

Another decade later, in entering the 21st century, the telecentre and other ICTs for development projects did not report a holistic result of improved living conditions in the communities where these efforts took place. The questioning of the role of telecentres and other ICTs for development projects were related to issues of sustainability, scattered and unconvincing impact assessments and evaluations, and the overemphasis of technology over political, economic, socio-cultural and institutional factors (Heeks, 2002; Bailur, 2006). These issues will be briefly discussed in the following paragraphs.

Sustainability relates to how the initiative is able to maintain and support itself continuously over time. Sustainability may be considered in two forms: social sustainability which refers to the long-term contribution of the telecentre to socioeconomic development of the community, and financial sustainability where the telecentre returns economic profits for those who have invested in it (Tschang, Chuladul and Le, 2002). Like many other development projects, the problem of sustainability arises when the external donor stops its funding and leaves the community to continue without providing the community the knowledge and tools on sustaining the initiative. Especially in ICTs projects, the equipments and facilities need a lot of money to start up and maintain, and the constantly-evolving technology meant that the ICTs provided may become obsolete and communities who embraced ICTs must continuously be updated to this new technology. To overcome the problem of sustainability in ICTs for development projects, Proenza (2001) and Heeks (2002) suggest that the answer lies in revitalising the critical role of local organisations (or individuals) forming a voluntary effective partnership at the local level. Furthermore, a continual process of addressing stakeholders may also aid in increasing sustainability of an ICTs for development initiative (Bailur, 2006).

Bailur (2006) also note that through an iterative analysis of stakeholders, one can understand further the impacts of ICTs for development projects. The literature provides a wide number of impact assessment studies and impact assessment guidelines in the past (Gomez and Hunt, 1999; Adam and Wood, 1999; Whyte, 2000; FAO, 2003; Heeks and Molla, 2009). Heeks and Molla (2009) have compiled these in a very comprehensive compendium summarising a series of frameworks used in impact assessments for ICTs for development projects and a bibliography of impact assessments done in the past. They have also identified, as a rationale for their work, that

there exists too little impact assessments of ICT4D projects (Heeks and Molla, 2009). Adam and Wood (1999), addressing ICT in Africa, argued that the literature were mainly scattered, superficial, and uncomprehensive. Impact assessments or studies were done based on northern perspectives, to treat particular organisations or sectors, and did not address long-term consequences on the society as a whole but focused too much on simplified successes of small user communities (Adam and Wood, 1999). Thus, in order to examine holistic impacts of ICTs in development contexts, the focus needs to change on the people, rather than the technology.

Putting the personal rather than the technology when viewing ICTs for development projects meant that the person or the community itself shape ICTs for their benefit, rather than the community being driven to advance to a better living standards by ICTs. ICTs itself is socially constructed and its impacts can only assessed through the creativity of the people who use it (Thorngate, 1995; Heeks, 2002). When ICTs are seen as a medium for information, Thorngate (1995: 199) further explains:

> The value of information cannot be meaningfully assessed outside the context of its use. It cannot be meaningfully estimated by including information as a variable in some linear equation or by "weighing" it in some additive fashion against the dollars spent on producing, distributing, storing, and retrieving it.

In this case, then, the people aspect is more important than the technology aspect. When introducing ICTs to a community, we must take into account that the effort will have more chance of being successful when the people have defined their own information and communication needs and preferences and are using and adapting the technologies according to how they want it (Michiels and Van Crowder, 2001). This concept of local appropriation of ICTs require participation of all stakeholders, and will contribute to facilitating community decision-making, providing a voice to the voiceless, advancing community ownership and as a result empowering communities to take charge of their own development (FAO, 2003).

2.5 Development of ICTs in Indonesia

The preceding section have described that ICTs are contextual, hence an analysis of its impacts would also have to be placed in context. The context of location would provide an idea of how

the cultural, social, economic and political aspects contribute to the harnessing of ICTs for development purposes. It is therefore useful to provide a review on the development of ICTs in Indonesia to inform the reader an understanding of the local setting of the research site as well as to put the research itself into context.

Indonesia is an archipelagic country with over 17,000 islands spread out in an area of around 1,900,000 km^2 that is home to more than 230 million people (Encyclopædia Britannica Online, 2009). This condition has made harnessing ICTs in the whole of the country become a giant challenge, whereby the development of ICTs were only present in densely populated areas with higher economic values such as the islands of Java, Bali and parts of Sumatra (Djalil, 2007). Like many developing countries, the problem of cost and distance hinder ICTs development in the nations.

Albeit, the government of Indonesia has realised the potential of ICTs for development. In 2001, the Ministry of Communications and Information Technology was established, along with the enactment of presidential instructions on ICTs (UNDP, 2004). One influential government regulation that was produced is the Presidential Instruction No. 6/2001 on the development of telecommunication, media and informatics in Indonesia, and the establishment of a five-year National Information and Communication Technology (ICT) Action Plan for Indonesia. They also followed International Telecommunication Union's (ITU) World Summit on the Information Society (WSIS), by having a national plan of action of ICTs development in the establishment of Indonesian Information Society by 2015 (Prakoso, 2008). The strategy by the government is to connect remote and rural places by providing at least 1 telecentre per village (Republika Newsroom, 2009; Rusdiah, 2007). Following this, many government departments rolled out many ICTs for development initiatives. As shown in Table 2-1, these initiatives – that were based on the telecentre model – were the projects of different government departments with international development agencies or private enterprises.

Table 2-1. Some ICTs for development initiatives in Indonesia based on the telecentre model

Initiative	Organiser
Community Access Points (CAP) / *Warung Masyarakat Informasi Indonesia (Warmasif)*	Ministry of Communications and Information Technology
Community Teleservice Centre (CTC) / *Balai*	The Indonesian Infocom Society (MASTEL)

Informasi Masyarakat (BIM)	
Community Learning Centre (CLC) & Community Training and Learning Centre (CTLC)	Microsoft Corporation Indonesia
Multipurpose Community Telecentre (MCT)	UNESCO
Indonesian Community Electronic Information Network / *Jaringan Informasi Elektronik Masyarakat Indonesia (JIEMI)*	National Information Agency - Ministry of Communications and Information Technology
School-based telecentre in National Education Network / *Jaringan Pendidikan Nasional (Jardiknas)*	Ministry of National Education
Partnerships for e-Prosperity for the Poor (Pe-PP) Telecentre	UNDP National Development Planning Agency (BAPPENAS)
Information and Technology Centre / Warung Informasi dan Teknologi (Warintek)	State Ministry for Research and Technology Myohdotcom Indonesia Hewlett-Packard
Information Centre / *Warung Informasi (Warsi)*	Association of Community Internet Centre or *Warnet* (APWKomitel) Ministry of Industry and Trade
Cyber café (*warnet*) and phone shops (*wartel*)	Private enterprises (SMEs)

The telecentre is an attractive model in harnessing ICTs for development in Indonesia. This was because the concept of public access to communication technologies was not new to the country. Since early 1990s, telephone shops were set up by private enterprises – often small or medium businesses – to cater those who could not access the telephone in their homes. The user would pay for the phone connection at a fee. The same concept was applied with the Internet. Statistics show that in 2007, the number of Internet subscribers i.e. those who paid directly to ISPs to access the Internet were 2 million, compared to the 25 million Internet users (PTIK BPPT, 2009). That indicates that there are only 8 Internet subscribers for every 100 Internet users in the country. Data from the Indonesian Bureau of Statistics show that only 4.4% of Indonesian households had access to the Internet in 2006 (PTIK BPPT, 2009). So a large number of people would access the Internet outside of their home, as much as 42% would access it from public Internet centres/cyber cafés (Rusdiah, 2003).

Even though there have been many efforts to set up a telecentre particularly in rural areas, the rural communities are still largely underserved. In 2005 National Census, it was found that 7% of Indonesian villages were still yet to enjoy electricity (PTIK BPPT, 2009). The same census data also illustrates that out of almost 60,000 villages in the census, only 0.62% had a public Internet centre (in the form of telecentre or any other kind) (PTIK BPPT, 2009). The list in Table 2-1 would provide about a little more than 20,000 telecentres spread across the country, but in reality

only few are reported to have a sustainable model. The challenge of sustainability is faced as governments prefer quick disbursements over focus on long-term benefits and applying projects which do not take into account the people's needs and readiness (Rusdiah, 2007; Prakoso, 2008). Rusdiah (2007) further argued that instead of learning from best practice telecentre models in the country and sustaining these telecentres, the government was more interested in establishing new models of telecentres as projects. In terms of regulations and policy, the government tend to focus on security regulation rather than creating opportunities and facilitating increased penetrations and access, and its national plan on ICTs for development lack concrete measures to be made (Rusdiah, 2007; Minges, 2002). The issues presented have created barriers in deploying ICTs for development in rural areas in Indonesia.

A promising way of delivering ICTs for development in rural areas is through the communities itself or through the mediation of local community organisations. In Indonesia, a powerful mediator was in the form of the village community radio, by integrating radio and Internet (Prakoso, 2008). Prakoso gave examples of telecentres set up by community radios that seemed to be self-sustaining as the community had wanted and needed the technology in the first place. The use of the Internet facilitated by the community learning centre as was in the case of the research site, Qaryah Thayyibah Learning Community, were also reported as having sustainability and able to survive (World Bank, 2005b; Prakoso, 2008).

2.6 Conclusion

The literature review has provided a background on the topic of the research, namely theories of communication for social change, ICTs for development and social change including the analysis of its impacts, and the development of ICTs in Indonesia. From the literature review, it can be concluded that impact analyses of ICTs for development projects are rare, and particularly in the context of Indonesia. Furthermore, these assessments of ICTs for development projects are mainly done by and for organisations, on projects funded by those organisations. Assessments of initiatives from the grassroots levels are hardly documented, due to the reason that grassroots organisations do not see their work as 'newsworthy' and even if so, they lack the networking to

share their experiences with other practitioners or the wider population as a whole (FAO, 2003; Michiels and Van Crowder, 2001).

Based on these premises, the research aims to create a substantial and original contribution to knowledge in that a grassroots initiative in ICTs for development and social change is of considerable mention with other efforts that have been heavily reported in the literature. Furthermore, it will enrich the literature of analysis of telecentre projects through the application of the stakeholder theory. The stakeholder theory as the theoretical framework for the research as well as the research methodology will be explained in the next chapter.

CHAPTER 3 THEORETICAL FRAMEWORK AND RESEARCH METHODOLOGY

3.1 Introduction

This chapter describes in detail the theoretical framework and methodology adopted in the research as a foundation and guide in the implementation of the research. It provides a review of the literature on the research paradigms and methodologies used in this particular research as a means for justification for selection of these paradigms and methodologies. A detailed description on the research plan, including specific methods used in collection of the data and also techniques of data analysis are also presented in this chapter.

3.2 Stakeholder Theory and Stakeholder Analysis

When undertaking research, a clear framework must be developed as a take-off point and guide in carrying out fieldwork and interpretation of the research. The theory in which the research will stand upon will determine what approach should be taken when undertaking fieldwork and influence the way the researcher interpret the findings gathered.

The impact of ICTs in this research was studied by the application of stakeholder theory. Stakeholder theory developed from the field of corporate organisational management and business ethics (Friedman and Miles, 2006; Phillips, 2003). Brugha and Varvasovszky (2000) have noted the various references made to the term stakeholders, i.e. stakeholder 'approaches', 'frameworks', 'issues', 'analysis', 'concepts', 'stakeholding' and so forth, but dealing with stakeholders mean that it concerns identifying stakeholder and analysing relationships between them and the organisation in order to reach a common goal – both of the organisation and its stakeholders (Freeman, 1984).

Since Freeman's (1984) work on a stakeholder approach to strategic management, stakeholder theory has been subjected to discussion and debates by scholars, particularly in the field of management. Stakeholder theory has been criticised and (mis)interpreted, all contributing to its

theoretical development (Phillips, 2003). A basic criticism of stakeholder theory is probably the debate on the definition of stakeholder itself (Reed, 2002). A widely recognised and oft-cited definition of stakeholder is the one provided by Freeman: "A stakeholder in an organization is (by definition) any group or individual who can affect or is affected by the achievement of the organisation's objectives" (Freeman, 1984: 46). The way stakeholder is defined and identified influence how stakeholder theory is elucidated (Friedman and Miles, 2006; Mitchell, Agle and Wood, 1997).

In the effort of gaining clarity, the stakeholder theory is classified into three main aspects (Phillips, 2003). This taxonomy was first put forward by Donaldson and Preston (1995), arguing that there are three aspects of stakeholder theory: descriptive, normative and instrumental. *Descriptive* stakeholder theory is empirical, an approach that sets to describe the characteristics and behaviour of the stakeholders and the organisation (Bailur, 2006; Friedman and Miles, 2006). Another aspect of stakeholder theory is that it is *instrumental*. The instrumental version of stakeholder theory imply hypothetical claims that *if* the interests of stakeholders are taken into account, then the organisation will do better (Donaldson, 1999). Normative stakeholder theory derives from corporate social responsibility and business ethics literature, based on the Kantian theory of common good, where it was perceived that stakeholders must be accounted for if the organisation was to succeed (Clarkson, 1995).

The concept of stakeholder can also be applied in other contexts outside corporate management. It has recently been widely used in other contexts particularly in politics, policymaking and development work (Brugha and Varvasovszky, 2000). In this case, a more practical approach of stakeholder theory is taken through the application of stakeholder analysis.

In practice, applying the stakeholder theory often means conducting a stakeholder analysis. A stakeholder analysis is the identification of key stakeholders in the project and their roles, interest, influence and how they might affect the project (Varvasovszky and Brugha, 2000). There are many ways to conduct a stakeholder analysis, depending on factors such as the aim and time dimension of the analysis, the context of the analysis and the level of the analysis

(Varvasovszky and Brugha, 2000). Therefore, a stakeholder analysis may vary according to what it is conducted for.

Although implementation of the stakeholder analysis may vary, the steps involved are generally similar. These steps are:

- Stakeholder identification
- Assessments of their behaviour and influence
- Identify the risks/assumptions that would affect the organisation or project success or how they are affecting and have affected the organisation/project's goals
- Determine concessions/bargains needed if the previous management strategies fail to work.

(Bailur, 2006; Varvasovszky and Brugha, 2000; ODA, 1995; Freeman, 1984)

Stakeholder identification involves selecting who the stakeholders are, usually also identifying what kind of stakeholder they are – primary, secondary or external. Primary stakeholders are those ultimately affected, whereas secondary stakeholders may not be ultimately affected by the issue but rather as intermediaries in the process (ODA 1995). External stakeholders are those who are not directly involved in the issue but play a role in how the process is implemented. Once the stakeholders have been identified, the next step is assessing the stakeholders' behaviour, including their influence and importance. Identification of risks and assumptions of each stakeholder involves an analysis of impacts that each stakeholder may have on the project (or already have, if conducting stakeholder analysis in the evaluation phase), to plan strategies on managing the stakeholders. Concessions and bargains must also be made and considered if the management strategies do not play out well in application.

The outputs of these steps are usually presented in a table, matrix, chart, position/network map and other figures (see Freeman, 1984; Varvasovszky and Brugha, 2000; ODA, 1995; Blair, Rock, Rotarius, Fottler, Bosse and Driskill, 1996). Mapping stakeholders through visual representations offer a practical application of the stakeholder theory by providing thorough understanding of the stakeholders.

As been explained previously, understanding stakeholders can be very useful in analysing a project's success. While stakeholder analysis is usually done in the appraisal process of a project, applying the stakeholder theory in an impact analysis can also be particularly potential as it is at this stage that most stakeholders and the rationale of their behaviour has emerged quite clearly (ODA, 1995; Bailur, 2006; Friedman and Miles, 2006). A stakeholder analysis is then done, and the impact assessment of ICTs in development is produced based on this stakeholder analysis. The use of the stakeholder theory as the framework of this research will be based on the assumption that analysing stakeholders of this initiative will provide an understanding of how the telecentre affects the stakeholders and to generalise that to come to the conclusion on how the telecentre as a medium of ICTs access affect the village community.

3.3 Qualitative Methodology and the Case Study Approach

Since this study explores the qualitative dimension of impact, an interpretive paradigm has been employed in order to come to an interpretative understanding of the stakeholders. Because the research is focused in a single site, qualitative methodology using the case study approach was deemed suitable as the mode of inquiry.

3.3.1 Qualitative Methodology

The use of qualitative methodology in the research was seen as the most suitable as quantitative impact measurement of ICTs has been discussed as problematic and not quantifying holistic impacts (Adam and Wood, 1999). Qualitative methodology refers to "an umbrella term covering an array of interpretive techniques which seek to describe, decode, translate, and otherwise come to terms with the *meaning*, not the *frequency*, of certain more or less naturally occurring phenomena in the social world" (Frey, Botan and Kreps, 2000: 262, emphasis added). It involves researchers studying things in the natural settings of the subject and attempting to interpret socially constructed phenomena (Denzin and Lincoln, 2005). Thus in qualitative research, the researcher is the key instrument as he or she is the one interpreting meanings from what the data bring to them. Qualitative research can be in the form of methods and approaches. The case study, the approach chosen for this research, will be explained in the next section.

3.3.2 The Case Study Approach

In a case study, the cases are investigated and then generalised to form a theory. Yin (2009: 18) defined the case study as "an empirical inquiry that investigates a contemporary phenomenon in depth and within its real-life context, especially when the boundaries between phenomenon and context are not clearly evident". In other words, the case study method is used when the research seeks to find out the "how" and "why" of a contemporary phenomenon within a real-life context (Yin, 2009). As argued by Patton (1990: 54), case studies "become particularly useful where one needs to understand some special people, particular problem, or unique situation in great depth, and where one can identify cases rich in information—rich in the sense that a great deal can be learned from a few exemplars of the phenomenon in question". The case study approach may also be taken if the aim is to 'give voice' to the people as the 'cases' (Gomm and Hammersley, 2000).

The case study has its limitations. It has been criticised on the basis of its theory, reliability and validity (Flyvbjerg, 2004). The issue of generalisability is a critical constraint in the application of case study approach (Gomm, Hammersley and Forster, 2000; Stake, 2005). By selecting small number of cases instead of large samples, generalising from these small samples is a questionable process. However, Yin (2009) argues that these limitations are also present in other research methods and by following systematic procedures and reporting all evidence fairly, these constraints can be mitigated.

Having known the strengths and limitations of the case study approach, specific type and design were selected for the current research. The research was conducted on the basis of instrumental, single-case study approach. Single cases are common in case study research design, and becomes justifiable when the case represents a critical test of existing theory, a rare or unique circumstance, or a representative or typical case, or where the case serves a revelatory or longitudinal purpose (Yin, 2009: 52). The single-case design was selected, based on Yin's rationale that the Qaryah Thayyibah Learning Community telecentre as the phenomenon to be studied represents a unique case. The selected case is unique, in the sense that the case has

reported “unusual successes” (Patton, 1990). Selection of the single-case study design provides a guide on the techniques and methods of data collection which will be described in the next section.

3.4 Methods of Data Collection and Analysis

This section describes data collection methods and procedures. The methods used in collecting data for the research were interviews and direct observation. They are the primary data-gathering techniques employed in qualitative inquiry, as the interaction between these two sources of data enriches both and provide a stronger basis for analysis (Frey, Botan and Kreps, 2000). This analysis of the data is also explained.

3.4.1 The research site

The research site was Qaryah Thayyibah Learning Community, located in rural village of Kalibening, Central Java, Indonesia. Access to the research site was made available by permission from the founder of the school, who also served as the “gatekeeper” and “key informant” in the research. The local education office (Education Office of Central Java Province) and the local branch of the Directorate of Nonformal and Informal Education at the Ministry of National Education where the school is responsible under (Centre for Development of Non Formal and Informal Education (P2PNFI) Regional II Semarang) also facilitate in going in the research site and supporting with secondary data materials.

3.4.2 Observation

The research involved direct observation in the research site. This technique is selected because the research was conducted using the case study approach undertaken in the natural setting of the particular case, thus creating the opportunity for direct observations.

Direct observation can provide additional information about the topic being studied (Yin, 2009). Furthermore, direct observations are contextual thus allowing the researcher to better understand the context (Yin, 2009; Patton, 1990). It also allows the researcher to be “open, discovery

oriented and inductive in approach", while also complementing interview data by contrasting or reinforcing the views of the participants (Patton, 1990).

The observation process began with the researcher spending one whole day immersing herself in the setting in the first day of arrival. This "observing impressionistically" is done for the researcher to familiarise herself with the surroundings, looking for clues and identifying actors (Frey, Botan and Kreps, 2000: 270). Observations in the following days were done systematically for 6 hours each day for a total of 6 days in and around the school telecentre. The observation results were recorded in writing in the form of field notes taken while observing the events and shortly thereafter.

3.4.3 Interviews

Interviews are done as it is one of the major sources of information for a case study (Yin, 2009). It is chosen as a method under the assumption that the perspective of other people is meaningful, knowable, and able to be made explicit (Patton, 1990). The type of interview conducted in the research was semi-structured interview – a type of interview that involves a predetermined set of open-ended questions and other questions that emerge based on interviewer's response and dialogue between interviewer and interviewee (DiCicco-Bloom and Crabtree, 2006). A semi-structured interview allows the interviewee to expand on their responses while the interviewer can still guide and make sure the broad themes are still covered. The list of questions prepared serve as a guide only, and the actual questions discussed may not necessarily be exactly the same as the list.

The interview sample was selected based on the researcher's assumption on who is regarded as a stakeholder in the school-based telecentre at Qaryah Thayyibah. These were: the founder of the school, the students, the teachers, community leaders and/or higher government officials and ICT provider. After going into the field, however, these were slightly modified and the stakeholders interviewed were founder of the school, students, teachers, parents, and a representative from the peasant organisation that is associated with the school. These interviews were conducted around the Qaryah Thayyibah site.

The questions that were asked were focused on studying the impact of ICTs. The questions revolve around stakeholder perceptions on ICTs which include issues such as familiarity, access, participation, and impact. The interview procedure was as follows: the interviewer initially asked the interviewee for verbal consent to participate, after consent was given then the interviewer began to ask basic questions regarding personal information of interviewee and afterwards asking questions based on the list of questions previously prepared and also other questions based on the interviewee's answers. The interviewee was then asked to sign the consent form, notifying them of what is stated in the form and how they participation might be utilised for the research.

3.4.4 Data Analysis

Qualitative data analysis is an iterative and cyclical process of providing description, classifying it into concepts, making the connections between these concepts to provide fresh descriptions (Dey, 1993). Technically, the analysis incorporates the process of data reduction, data display and conclusion drawing/verification (Miles and Huberman, 1994). This process is usually in the following sequence:

- Affixing codes to field notes from observations and document data or interview transcripts
- Marking reflections on the data
- Sorting and sifting through these materials to find common phrases/themes/patterns, or distinct differences
- Identifying the commonalities and differences
- Making generalisations
- Verifying and justifying the generalisations

(Miles and Huberman, 1994)

Analysis of the data in this research followed Miles and Huberman's (1994) analysis process described above. It used the constant comparative method to build grounded theory, where generalisations are grounded in or inferred from the data collected (Frey, Botan and Kreps,

2000). The constant comparative method meant that comparisons are used to make sense of the data, in categorising the data to explain the meaning of the data (Frey, Botan and Kreps, 2000; Boeije, 2002). By constantly comparing and contrasting the information collected, the patterns that emerged were then used to develop a theory.

The data collected in this research were in the form of interview recordings and notes, and field notes from observations. The recordings were transcribed, with notes from each interview serving as a guide in creating the transcripts. The handwritten field notes were typed up. Each of these documents was read through a number of times to produce codes with the aid of NVivo 8. Codes are used to assign "units of meaning" to the information compiled during the research (Miles and Huberman, 1994). A list of the codes in the analysis is provided in Appendix C.

The coding process involved two phases, the first being to organise descriptive information from the data, and from this information further coding is done through and for finding patterns and themes. The first phase of coding is *open coding* or *descriptive coding*, identifying words, phrases, and sentences that reflect the research questions. The second phase of coding is *analytic coding* or *pattern coding*, where the open codes were analysed and refined by grouping them into certain topics. Based on the topics, another round of analysis was done involving looking for themes and patterns that emerged. These themes were then discussed based on the stakeholder theory and analysis framework provided earlier in this chapter. From the discussion of the themes that was based on the provided theoretical framework, generalisations were made to come to the conclusion that would answer the initial research questions.

3.4.5 Reliability and Validity

In qualitative research, reliability and validity can be produced by conducting the research in a systematic and ethical manner. This means the researcher follows procedures and is aware of the nature of qualitative inquiry that always values truth—however the truth might be constructed.

In order to achieve validation and reliability, qualitative researchers may employ two approaches: cycling the accounts back through the participants or evaluate multiple forms of

evidence by comparing evidence through triangulation and disjuncture (Lindlof and Taylor, 2002). Triangulation is "the process of using multiple perceptions to clarify meaning, verifying the repeatability of an observation or interpretation" (Stake, 2005: 454). There are four types of triangulation: 1) using different data-collection methods through *methods triangulation*, 2) *sources triangulation* by checking the consistency of different data sources from the same method, 3) using multiple researchers to review findings in *analyst triangulation*, and 4) *theory/perspective triangulation*, done by using multiple perspectives or theory to interpret data (Patton, 1990). Triangulation is ideal and helps identify different realities (Patton, 1990; Stake, 2005).

Although triangulation is ideal, only two types of triangulation were able to be practiced in this research. Methods triangulation and sources triangulation were applied in the research. The application of all types of triangulation was not viable due to time and budget constraints.

3.5 Conclusion

This chapter has outlined the theoretical and conceptual frameworks surrounding the research, which provide the basis for the methodologies and approaches of the research. The frameworks and methodologies described were chosen based on its relevance to the research questions provided in Chapter 1. This chapter has also laid out a description of specific techniques for data collection and analysis as well as the quality of the data. The results obtained from these procedures will be discussed in the next chapter.

CHAPTER 4 CASE STUDY RESULTS

4.1 Introduction

A review of literature regarding ICTs for development and social change in the global context as well as in the Indonesian context have been described previously. In this section, a description of the local context, that is, the research site at Qaryah Thayyibah Learning Community will be given before moving on to describe the results of observations and interviews following the research.

4.2 The Qaryah Thayyibah Context

The Qaryah Thayyibah Learning Community is situated in Kalibening Village in the subdistrict of Tingkir in the Central Javanese city of Salatiga, Indonesia. Kalibening is about 3 kilometres away from the city centre. The village is predominantly rural, with most of its people involved in farming either as farmer or farm labourers.

In the simplest term, Qaryah Thayyibah is a school. It provides education for children at the secondary level (Year 7 through to Year 12), and is expanding to establish a "university". However, Qaryah Thayyibah is not an ordinary high school, it is recognised by the Ministry of National Education as a non-formal education provider as its principles and operations are different to a 'formal' high school. The people involved in Qaryah Thayyibah did not like to refer themselves as a school but rather as a learning community. It is heavily focused on the community as the basis of learning.

The principle of community-based schooling adopted in Qaryah Thayyibah meant that learning must come from the community and the results given back to the community. In practice, this means that the learners are given freedom to learn what they want, how they want it. Education is managed together by the community involving villagers, village authorities, parents, teachers, and students (SLTP Alternatif Qaryah Thayyibah, 2007). Learning is mediated by the use of ICTs and their natural environment as their laboratory (Bahruddin, 2007). Learning outcomes

were not evaluated using paper examinations but in the form of creative works such as writing, film, music, or artwork.

The school was established in 2003 by Ahmad Bahruddin, a community member who was then head of a federation of peasant organisations (*Serikat Paguyuban Petani Qaryah Thayyibah*, or SPPQT). At a village meeting he brought up the issue of education – especially the issue of village children having to go to the city to get further quality education after graduating from primary school.

> The main goal of the meeting was not to establish a school, but to figure out how to anticipate the children who originally studied in their villages and must go to the city to keep studying at a higher level. The meeting led on to discuss the problems of education, including the problem of school fees; we had to pay Rp. 750,000 to get into the school, and quality of education. So I proposed to set up our own school, if there were 10 students willing to be in it then we will establish this independent school. From about 30 people who attended, most of them rejected the idea (about 18 families), but then there were 12 families who agreed. (Bahruddin, 2009)

The school officially opened on 21 July 2003 with those 12 students in the garage of Mr Bahruddin's house. The teachers were originally volunteers who came from peasant organisations. For learning materials, they relied on the Internet, which was already present in Mr Bahruddin's house that was also the secretariat of SPPQT. They also relied on any resource they could get around their community, for example a neighbour who was a doctor helped the students design the menu for the students' daily meals at school, and the milk and honey that was the students' daily breakfast came from the local dairy.

To date, Qaryah Thayyibah has about 150 students ranging from Year 7 to Year 12. These students are mostly from around the Kalibening area, while a small number of them came from outside the village who were interested in the education experience at Qaryah Thayyibah. Most of the students are from lower to middle-class families, whose parents worked as farmers, farm

labourers, or involved in small businesses. The first batch of students had just finished Year 12 in 2009 and most of them are now attending universities.

4.3 Observation Results

Observations were made around the area where most of the learning activities were being held. Although Qaryah Thayyibah itself has no official buildings, learning activities were mostly centred around a building called the Resource Centre (Figure 4-1). The building is located adjacent to Mr Bahruddin's house. It is surrounded by villagers' houses, a small mosque, and a hut that was the school canteen, but it was closed due to *Ramadhan*[1]. This three-storey building is located in front of Mr Bahruddin's house. The first floor of the building is a multipurpose hall. It housed computers and facilities for a telecentre, and also served as a library with hundreds of books. The second floor was being used as the school's music studio, but will later be used as accommodation for guests of the school. The third floor was currently under construction, but it was planned to be a soundproof music studio for the students or other community members to practice music. A diagram describing the setting of Qaryah Thayyibah is presented in Figure 4-2.

[1] *Ramadhan* is a month in the Muslim calendar where Muslims are obliged to fast for the whole day from dawn to dusk. In Indonesia, many public eating places are closed during the day and would open close to the time of breaking the fast.

Figure 4-1. The Resource Centre

There are no set schedules for learning at Qaryah Thayyibah, so the students come and go as they please. Each class had their own schedules that they have made up. Normally every class meet around the area in the morning, be it in front of the mosque, in the courtyard of the Resource Centre, or inside the Resource Centre itself. Every class had the responsibility of forming the learning schedule and discussing it with the facilitators (teachers).

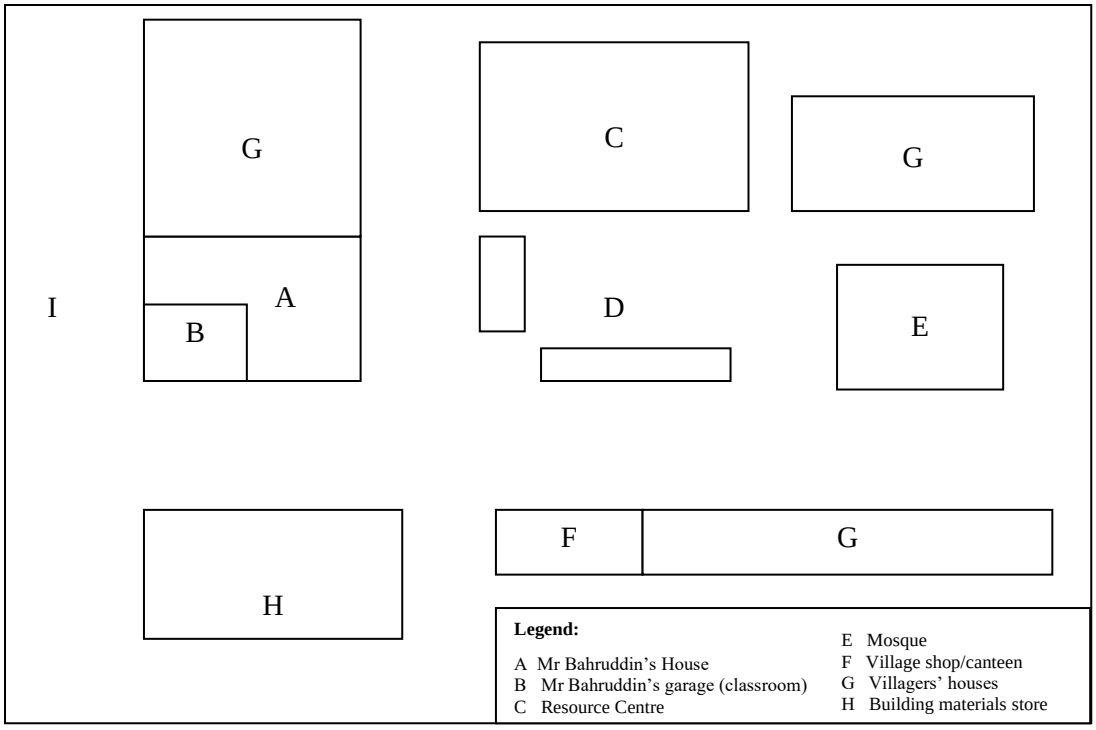

Figure 4-2. Setting of Qaryah Thayyibah Learning Community

The multipurpose hall is one of the most occupied places for Qaryah Thayyibah students. They would be in the hall to access computers and Internet, as well as doing other things from drama club rehearsals to wushu practice. The hall is also home to the telecentre (**Error! Reference s ource not found.**). There were 6 computers and 1 printer lined on one side of the wall, one of which served as the operator computer and printer. Book racks with hundreds of books were lined on the other side of the wall. The hall also had an LCD projector and speakers that were held using pieces of wood on the ceiling.

The telecentre facilities were managed and run by a committee of Qaryah Thayyibah students. The committee was responsible for the management and operations of the telecentre. While Internet access had been previously free at the school, with the growth of the school the facilities at the telecentre were now charged at a fee (Rp 2000 per hour). The free Internet was available as a donation from the local ISP provider using wireless/radio connection. After a few years the connection became unreliable, with many downtimes and disconnections experienced. In 2007, they subscribed to another ISP that provided Asymmetric Digital Subscriber Lines (ADSL) broadband connection that gave faster and more reliable Internet connection. Subscribing to this

commercial ISP meant that the telecentre had to support itself financially to pay for the bills, hence the decision to charge the users for Internet access.

The telecentre was mostly occupied by students – either from Qaryah Thayyibah or from other schools who were close to the area, or students who did not go to Qaryah Thayyibah but lived in the area. Most of these students access the computer in groups, where one computer may be used by a group of students instead of one computer per student. There seemed no difference in terms of access for boys and girls, but boys seemed to occupy the computers more than the girls.

The busiest hours for the telecentre were in the morning up to midday. This would be because at this time most of Qaryah Thayyibah students are present in the area, and by midday they would retreat or stop and pray at the mosque for their afternoon prayer. There was a piece of paper pinned at the door notifying the opening hours of the telecentre which were from 9am – 10pm daily, and closed between 12.30pm – 1.30pm, but during the observation many people were still accessing the computers freely at this time. At night time the telecentre was also packed; the users would come at this time to download heavy-sized documents such as songs and videos, because at this time the download speed would increase and the telecentre also offered access at a discounted price. When the computers were in use, most of them were used for studying purposes, entertainment purposes (for games, songs and videos), and for socialising through email, instant messenger and social networking sites.

The results from the observations served to give an impression of the surroundings and also provide additional information – to strengthen or contradict – the interview results. Results of the interviews that were conducted will be explained in the following section.

4.4 Interview Results

Interviews were conducted to the stakeholders involved in Qaryah Thayyibah. These stakeholders were identified as Founder, Parent, Student, Teacher, Peasant Organisation Representative and Education Official. The stakeholders were asked questions that were focused on familiarity, access, participation and impact of ICTs.

Familiarity

In most cases, the first question that would be asked in the interview was *"How did you become familiar with the computer and the Internet?"* Most of the respondents answered that they became familiar with the computer outside of their home, either at school or at a public Internet kiosk. Almost all the students interviewed said that they had learned how to use the Internet at Qaryah Thayyibah. They were also asked what other technological tools that they were familiar with, and most of them were familiar with cellular phones, with one respondent saying that the school facilitated him to be able to use a professional video camera to make films.

Access

In the interview, access refers to *how* ICTs were accessed for the respondents. While most of the respondents owned a computer at home, none of them had Internet access at their home with the exception of the Founder and Peasant Organisation Representative. They relied on the telecentre to access the Internet (the Education Official is an exception as he did not live in the area).

The Student respondents accessed the computer for study purposes as well as entertainment and social purposes. Study purposes include literature searching, writing, film editing, graphic design, mapmaking, and whatever it was the student is interested to learn. Entertainment purposes include general browsing, downloading songs or video clips/movies, or playing games. While for social purposes, they identified to using social networking sites and instant messenger to connect with their friends.

The Peasant Organisation Representative identified how he and his colleagues access the Internet. The Internet was a component of their organisation that they used to connect with other members and also other stakeholders of the organisation such as businesses. They used email to exchange information, and information exchange was also facilitated by the organisation's website:

> *For the farmers, they could get the price of a commodity from the Internet. They could come to our office and find out the price of a commodity so they don't have to ask around everywhere.*

He further explained that the farmers who had access to computer and Internet were the ones who had a position in the Peasant Organisation.

The student's Parents and Teachers both said that their access to ICTs was heavily influenced by the children. The children's adoption of ICTs also motivated them to use ICTs. One parent said that he used the computer at home to write, motivated by his daughter who had published a number of novels. He said:

> *Yes, it really had affected me personally. In the sense that the knowledge that my child learned at school I can learn as well, including the computer. Because my child is familiar with the computer, so there is a computer at home and I also learn how to use it. Including my child's habit of writing, made me want to practice writing as well.*

Another parent had just learned how to type on the computer following his child who learned touch-typing at school.

Participation

Participation refers to the role of the stakeholders in mediating ICTs in the community. The Founder and Peasant Organisation Representative explained the concept of Resource Centre, a hub where all the resources in the village is pooled. In this concept, ICTs become another resource along with farming tools, vehicles, books, and so forth. They explained that ideally, the whole community should participate in the management and mediation of all these resources. But in reality, this concept had not been fully realised as it is still in the process of raising awareness of the community of the significance of the Resource Centre.

When asked about how ICTs – in this case the telecentre – is managed, the respondents explained that it was managed by a committee that comprised of Qaryah Thayyibah students who were willing to participate in the management and operation of the telecentre. The committee's role would be responsible for paying electricity and Internet bills, purchasing and maintenance of equipments, financing and managing daily operations of the telecentre itself. The committee members could change from time to time, and that would also mean that there would be changes in the management and operation of the telecentre.

Impact

When asked about how ICTs have affected their lives, almost all the respondents would say that ICTs had an impact. The magnitude of the impact was different from each respondent. Most of the impact that was identified was related to learning and how ICTs have facilitated in gaining knowledge of their interest. Some students said it greatly aided them in getting the information they needed in their process of learning, while other students said they only used it if they had to for school assignments and did not think it really affected how they learn as their interest is not in technology. They were also asked about their opinion on how ICTs impacted their community. All the respondents identified this with the existence of the school, saying that the community's perception of Qaryah Thayyibah as a whole was divided between those who supported and those who thought it was unnecessary.

4.5 Conclusion

Situating the case study context which was the Qaryah Thayyibah Learning Community had been done in this chapter.A description of the results that derived from collecting data through observations and interviews were given. Interview results indicate patterns about the use and consequently impact of ICTs for the stakeholders in Qaryah Thayyibah, and these were backed up by the observation results. An analysis of these patterns based on the findings will be discussed in the following chapter.

CHAPTER 5 DISCUSSION OF FINDINGS

5.1 Introduction

The previous chapter have described the results and findings that emerged from the data collection process of the research. These findings will be analysed further in this chapter. The analysis served to find out the impact of ICTs for social change in the Qaryah Thayyibah Learning Community. The impact of ICTs for social change can be viewed in terms of access and participation of stakeholders in the harnessing of ICTs for social change in Qaryah Thayyibah.

5.2 Access to ICTs

Access to ICTs can mean two things: the physical access to ICTs (connectivity) and another, more subtle and complex access, refers to economic, sociocultural, political and psychological factors that influence a person's opportunities to use ICTs (Roman and Colle, 2002). Identifying access and the barriers to access provide an understanding of the impact of ICTs for social change.

Access to ICTs is related to its usage. Based on the results of interviews and observations, the use of ICTs in Qaryah Thayyibah can be divided into 2 main categories related to development: *learning* and *networking*. These two purposes were used as a *medium for production*, which would impact on their professional development.

Using ICTs for learning could mean writing, editing a film, or drawing cartoons and maps to inform themselves or others. For the students, writing, editing and drawing also served their entertainment purposes, as the students were learning the things that they *liked* and *wanted* to learn, not what they *had to* learn as what the books or teachers told them to. For example, one student respondent liked writing as her hobby. She used the word processor in the computer to type her stories or articles. This particular student had already published almost 20 books to date. Another student was passionate about graphic design and film editing, and would spend his time

on the computer editing the films that he had recorded, or learning from tutorials on graphic design and film editing that he had downloaded from the Internet. The use of ICTs for learning was also identified by other stakeholders such as the teachers and parents.

ICTs were also used by the stakeholders for networking. For the students, they were familiar with email, social networking sites, and chatting through instant messenger. One student respondent said:

> *I use the Internet for networking, talking with other students, discussing about the education system in this place. It turns out there are a lot of students out there who are interested and had a lot to say. In the future I would like to use the Internet to network with these students, to learn together, to share knowledge.*

The representative from peasant organisation also agreed that ICTs were used for networking, particularly to network with other stakeholders in the organisation. They had realised the potential of ICTs for networking since the establishment of the organisation. This was shown in an interview with the peasant organisation representative and the founder who stated that computer and Internet access had been available since day one of the organisation's operation.

Because computers and Internet were readily available in Qaryah Thayyibah, physical access to ICTs was not a significant barrier. The physical infrastructure to support ICTs such as telecommunications infrastructure and computing equipment were available in the telecentre. Furthermore, the school had come up with a computer loans scheme, where students could purchase a basic computer by giving a portion of their daily pocket money to buy the computer. In relation to that, the students who had been exposed to the ICTs from the school had valued the importance of a computer, so they financed themselves, or with their families, to purchase one for their home. Other technologies such as the Internet or gadgets such as cameras and printers were usually accessed from the telecentre.

The non-physical factors affecting access to ICTs are more complex. A person's decision and opportunity to come to the telecentre or use ICTs can be influenced by their economic status, their political power, their education level, their generation and gender (UNDP Evaluation Office, 2001; Roman and Colle, 2002). Economic status and political power will not be

discussed in this instance, as generalisations could not be made from the data on these factors, but education level, generation and gender will be analysed.

In the case of Qaryah Thayyibah, the students were accessing ICTs more than the adults. This could be seen in terms of generational divide. It is a common belief is that the youth have greater capacity to understand and adapt to ICTs and the dynamics they generate, compared to older people, because ICTs are *their* technologies (Morris, 2000). Older people view ICTs as unnecessary and even as a significant threat. Morris (2000) further argues that this technology generation gap could lead to inter-generational tensions. In contrast, McDaniel (2002) proposed that ICTs may promote social cohesion among generations. When the adults were asked about their familiarity with ICTs, they answered that they do use the computer and the Internet for similar reasons as the children, but they were not seen to go to the telecentre to access ICTs – perhaps because they had computers at home, and preferred to access ICTs from home rather than going to the telecentre.

The students' frequent access to the telecentre could also be analysed in terms of education level. In Indonesia, as with other countries, the profile of ICTs users show that mostly those with higher level of education access ICTs. Strictly speaking of ICTs as the Internet, the users of this technology were mainly bachelor degree students and graduates (Idris, 2004; Hill and Sen, 2005). In Qaryah Thayyibah, the students were mainly children of farmers, who invested in their children's education in the hope that it would improve their families' lives, and make the children be better off than them who had lower level of education. For example, one parent was identified as a primary school graduate who enrolled his child in Qaryah Thayyibah to receive secondary level education.

Gender is an important factor that could affect a user's access to ICTs. Hafkin (2002) identified that gender bias impede young women's access to ICTs, particularly in developing countries. This includes the belief that girls are less successful when dealing with technological tools and other socio-cultural attitudes that hinder girls' access and participation in ICTs-related activities. In Qaryah Thayyibah, the issue of gender had been recognised, as present in one of the documents sourced in the school database which cited:

This learning community's main concern is noble and just universal values, including social justice with gender equity and ecological fairness.

Observation results show that boys visit the telecentre more frequently than girls, however, when asked about this during the interviews, the respondents all answered that they did not differ between boys and girls in terms of access and participation in learning at Qaryah Thayyibah. They also said that in the school itself, the ratio of boys versus girls attending the school were similar

5.3 Participation and the Relationship between ICTs and the Community

Participation refers to how much each stakeholder has an involvement in the initiative. In analysing participation of the community in Qaryah Thayyibah in relation to the telecentre, it is important to explain how the community perceived the ICTs in their community.

During the first visit, the researcher interviewed the founder of the school, Mr Bahruddin, who gave an account of the principles of the Qaryah Thayyibah Learning Community. He explained that Qaryah Thayyibah is operated based on the concept of *lumbung daya* or resource centre. *Lumbung* is the term used for a barn in a village where farmers in the village would store their stock of produce (rice is usually the main component that was stored) as means to ensure food security in the village. This concept of collective food security had been present in Indonesia since the 19th century (Rachman, Purwoto and Hardono, 2005). Mr Bahruddin's concept of the resource centre is similar to the concept of *lumbung*, that is, collective asset management of the village. He said:

The Resource Centre is a medium for ... production, including information resource (print or digital) that is implemented through collective action and sharing in the community and is not for profit ... Because access to production tools are not a problem anymore, then the opportunities for community members to produce something will increase, as the fatal consequences of failure would be minimised. Other than that, community members who wanted to produce will not be faced with high investment cost. Everything becomes possible because it is based on the principle of mutual sharing and collective procurement.

> *Furthermore, for children in primary or secondary school (12 to 17 years of age), the existence of this Resource Centre which mainly offers Internet facilities, would make them be able to obtain information resources that would otherwise be difficult to get and expensive, become easy and cheap.*

He added that the people at the learning community were part of the resource centre, and that the school "*still exist without a signboard* (stating Qaryah Thayyibah as a school or learning community), *so that we do not narrow ourselves to just becoming a school*".

The concept of resource centre was familiar to all other respondents who were associated with Qaryah Thayyibah. One of the students was asked how ICTs have influenced the community, and she answered:

> *The impacts are still not felt for the community. This place is actually a "*lumbung"*, it provides tools for production such as how, plough, and things like that. Maybe if it is already complete like that then the impacts can be noticeable. Now there is only the telecentre, maybe the effect now is the people can access the Internet here instead of having to go to the city.*

Other respondents' answers were also focused around viewing ICTs as a tool to aid their personal development and the development of the community, as they admitted it was the principle of Qaryah Thayyibah to relate everything back to the community.

The resource centre concept was also absorbed by the federation of peasant organisations that was linked to Qaryah Thayyibah, SPPQT. An interview with a representative from SPPQT who was also a facilitator at Qaryah Thayyibah revealed how this concept is being used in the peasant organisation. SPPQT is an umbrella organisation for 55 peasant organisations in the village level (*paguyuban petani*) or hamlet level (*kelompok tani*), encompassing 16,456 farmers in 189 villages in 10 cities/regencies in Central Java. Since its establishment in 1999, Internet access had been present at least in their Secretariat. Now they have provided Internet access in the form of a telecentre in 14 peasant organisations. Internet access is used to access their website (www.sppqt.or.id), which provided information on market prices, agricultural knowledge, and also as a database for all the resources present in the organisation. Figure 5-1 provides an example of how the resource centre concept is rolled out, showing that Internet (priced Rp

2000/hour) is an available resource owned by Harapan Makmur Peasant Organisation, along with other resources such as water pumps, handheld transceiver, van vehicle and generator set. The website recorded all resources, whether they were available or currently on loan, in many categories from physical goods to member skills.

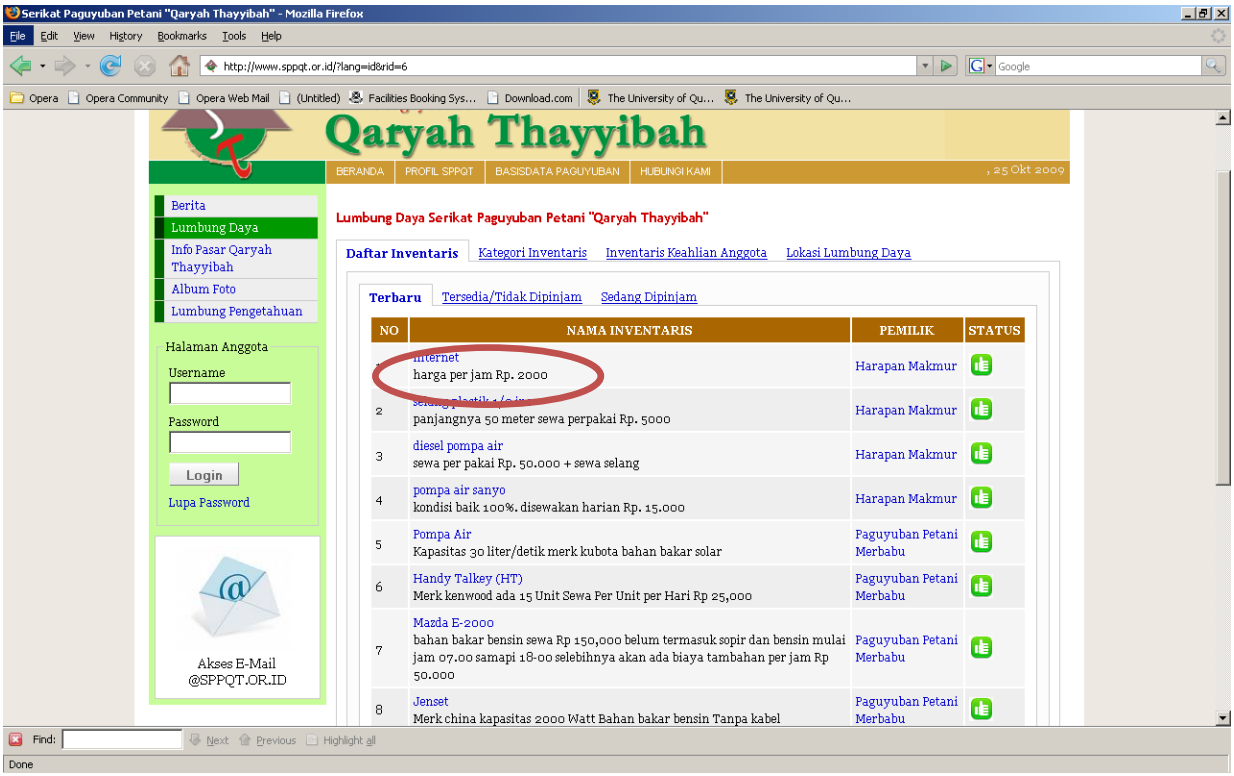

Figure 5-1. Database of resources in SPPQT, taken from the SPPQT website

Therefore the relationship between ICTs and the community in Qaryah Thayyibah is closely related to development of the community itself (Figure 5-2). ICTs are seen to be a part of the resource of the community that are used for learning and networking as a medium for production. Therefore, with other resources, ICTs facilitate production of works which would aid development of their individual selves and ultimately their communities. Ability to use ICTs and produce works would also give community members life skills that they can return to the resource centre to be inventoried as part of the available resources in the village. In the resource centre concept, ICTs are part of the collective; hence its management is also done collectively. ICTs were currently managed by the students themselves, based on participatory approaches which allowed every student to become part of the management team and be responsible for the sustainability of the telecentre.

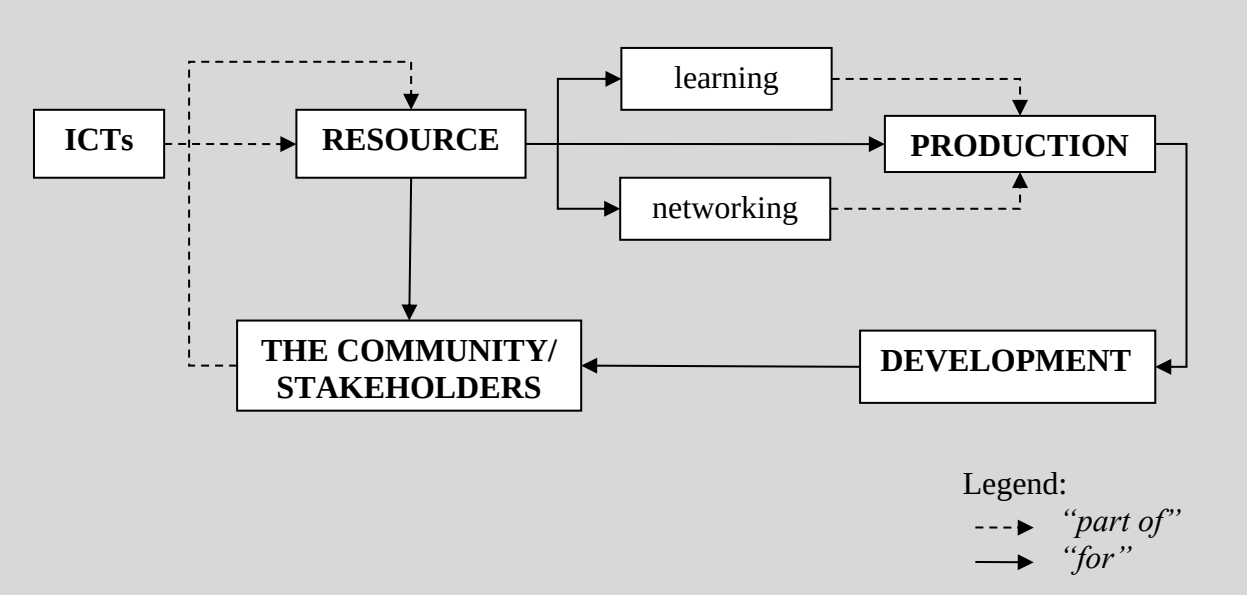

Figure 5-2. A model of the relationship between ICTs and the Qaryah Thayyibah Learning Community

The resource centre concept in Qaryah Thayyibah suggests that they have appropriated ICTs and other technologies to be used for the development of the community. The community is the central focus, not the resource or the ICTs. By viewing ICTs as a resource that is collectively gathered and managed, participation of each member of the community in the management and decision-making pertaining to ICTs was ensured.

5.4 Impact of ICTs for community empowerment in Qaryah Thayyibah

The examination of access to ICTs, as well as participation and relationship of ICTs with the community in Qaryah Thayyibah provided the foundation for concluding the impact that ICTs had, particularly on community empowerment. These impacts are presented through a stakeholder analysis. The stakeholder analysis will elucidate the impacts of ICTs on community empowerment in Qaryah Thayyibah.

The impacts of ICTs adoption in Qaryah Thayyibah would derive from its use as a medium of learning and networking. These impacts are listed in Table 5-1. In relation to community empowerment, the impacts of ICTs in Qaryah Thayyibah would be how it had been a medium for production, allowing the users to innovate and create products that would enhance their

development. Further analysis of impacts of ICTs can be approached using the stakeholder theory. This analysis is presented a stakeholder table and a stakeholder influence versus importance matrix in Table 5-2 and Figure 5-3.

Table 5-1.Stakeholders' impacts of ICTs in Qaryah Thayyibah

STAKEHOLDER	IMPACTS
Student	• Cost saving in gaining knowledge for learning • Contribute in professional development by gaining life skills of their interest • Increased networking and socialising opportunities with people in the global community outside their village while being able to communicate about their community with other people outside their village • Enhance participation through shared ownership and management of telecentre
Teacher	• Contribute to professional development by gaining life skills • Ability to gain knowledge
Parent	• Contribute to professional development by gaining life skills of their interest • Aid in their work: increased networking opportunities and improve management of business
Founder	• Aid in their work: increased networking opportunities and improve management of the learning community • Allow greater public awareness of the learning community, to support the development of the learning community
Farmer organisation	• Improved networking and coordination amongst other farmer organisation/members • Allow greater public awareness and visibility of organisation for its stakeholders
Other community members	• Not yet visible

Table 5-2. Stakeholder table of ICTs use in Qaryah Thayyibah Learning Community

Stakeholders	Characteristics				
	Involvement in the issue	**Interest in the issue**	**Influence /power**	**Position**	**Impact of issue on actor**
Student	Main user of ICTs and operator/manager of the telecentre	High	High	Supportive	High
Teacher	Facilitate student learning	High	Medium	Supportive	Medium
Parent	Giving trust to the children to learn as they wish, be affected by ICTs as their children motivated them to	Medium	Medium	Supportive	Medium
Founder	Facilitate the adoption of ICTs in the learning community	High	High	Supportive	High
Peasant organisation	Facilitate farmers in accessing ICTs, organisation is managed, networked and become visible through ICTs	High	Medium	Supportive	High

Other community members	They have great potential as ICTs users – but so far hasn't adopted ICTs particularly in the telecentre	Low	Medium	Mixed	Low

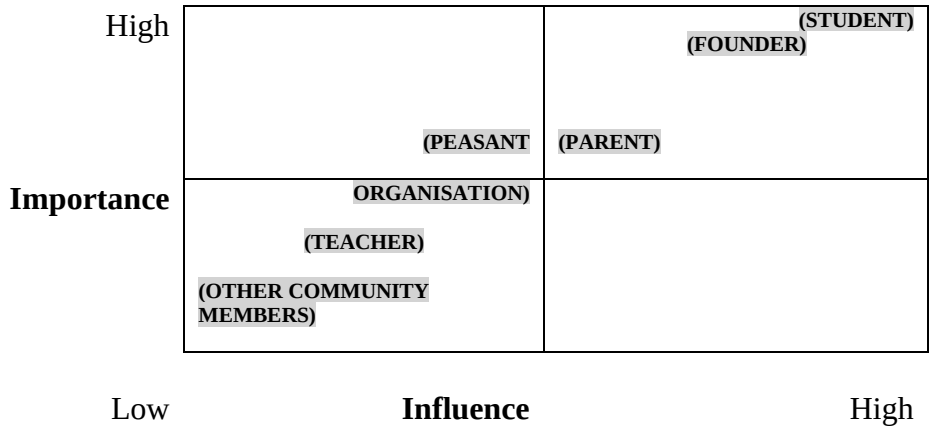

Figure 5-3. Stakeholder influence-importance matrix of ICTs adoption in Qaryah Thayyibah Learning Community

From Table 5-2, it was found ICTs had the most profound impacts for the students compared to other stakeholders. This can also be seen clearly in Figure 5-3, where the students had the highest importance and influence compared to other stakeholders. This was because the students were given a great amount of trust by the adults to control their own education, as explained by the founder of the school:

> *Many things we give trust to the children to decide what is best according to them, not according to teachers or parents, as long as it is not fatal or in the form of evil. The trust that we given has turned out to greatly develop the children's creativity and ability to innovate.*

Those involved in Qaryah Thayyibah understood that introducing ICTs to the children make socioeconomic sense as it is a long-term investment where the benefits will be felt for a long time (Proenza, 2001). The trust given to this young generation, including the responsibility that they gave to them of managing and operating the telecentre, has been a landmark in the empowerment of the community. It has, in some ways, shifted the power distribution by allowing the young generation to be given the experience first and then sharing with the older generation, as opposed to the elders possessing all the knowledge and transmitting it to the young (APPEAL, 2005).

However, for the remaining community members, the impacts of ICTs were yet to be seen. Access and participation in ICTs had not encompass the whole of the community. All the respondents interviewed were aware this issue and felt that to achieve full participation is a process that they are still currently experiencing. As one student said on the response of the community:

> *Some support and some oppose. They understand. It needs time and process to know... The most important thing is that it all comes from inside, from their own. Sure, Internet has big impacts. But in Indonesia the cultures are different. For community empowerment, it depends on that. The development of culture. It all has to be appropriated to the place.*

The people at Qaryah Thayyibah know that achieving empowerment need patience – an exercise that rural communities are familiar with in knowing that "things take time" (Burkey, 1993). As Melkote and Steeves (2001) have pointed out, empowerment is a long-term process, and this is recognised in Qaryah Thayyibah.

Based on the stakeholder analysis, there was another stakeholder that was identified as having high importance and influence, and this was the founder of Qaryah Thayyibah. Here the value of local champion or social innovator can be clearly seen (Abdul Razak, 2009; Fuchs, 2003). Mr Bahruddin was an activist of the peasant organisation that enabled him to support the existence of Qaryah Thayyibah. He was also a local where his family were linked to the establishment and operation of a big *pesantren*[2] in the village. Therefore he and his family were respected in the village. This also paved the way to the establishment of the learning community. Although formally educated as an Islamic teacher rather than a farmer, he was very close to the farmers of his village and was always concerned for their wellbeing, which led him to establish a peasant community organisation that would later be incorporated to the federation of peasant organisation (Bahruddin, 2007). From the interaction with the founder, it can be seen how much he influenced the whole learning community. The underlying principles and concepts applied in Qaryah Thayyibah were mostly envisioned by him. It was clear that without him as an intermediary, the process of empowerment in the community would be harder to achieve.

[2] Islamic boarding school

The existence of Qaryah Thayyibah and consequently the community's vital connection to ICTs are one that was realised from the vision of members of the community itself. The stakeholders at Qaryah Thayyibah perceived that development must start from within themselves, and thus the telecentre initiative was one that they realise together, arising from the need of having adequate information resources to assist in 'production for development'. They value this independence, as shown in the case where they turned down an offer from the World Bank to develop their telecentre because they did not agree with the funding allocations that were too strict and not focused on the community. On a discussion session with the founder, he showed documents of the World Bank funding allocation table, noting that too much were spent for transport and remuneration for external consultants from outside the village rather than concentrating on using resources from the community. That, and the inflexibility of the project, had caused him and other stakeholders to not accept the grant that was instead given to another peasant organisation under SPPQT.

The community at Qaryah Thayyibah, at least those involved in the learning community, realise that ICTs are a resource that they need to manage together. This meant that every action related to the development of that resource must take into the consideration its effects on the development of the community. It is this notion of community ownership that would contribute to the success of a telecentre or any ICTs for development initiatives (Proenza, 2001; O Siochru and Girard, 2005). Melkote and Steeves (2001) further identified that community empowerment is achieved when individuals and organisations from the grassroots have significant influence over agenda, design and processes, resting the locus of control to be within them and not from outside. It can be seen in Qaryah Thayyibah that they were well on their way of achieving community empowerment, albeit not all the impacts have reached every member of the community.

5.5 Analysing Impact of ICTs in Qaryah Thayyibah through a Stakeholder Framework

The impact of ICTs for social change in Qaryah Thayyibah was analysed using the stakeholder framework. It can be explained in the lens of descriptive, instrumental and normative stakeholder

theory. Applying descriptive stakeholder theory in analysing impact of ICTs at Qaryah Thayyibah provided an understanding of the relationship between the organisation (in this case, Qaryah Thayyibah and the telecentre) and its stakeholders. This was described in Figure 5-2. Bailur (2006) noted that in telecentre projects analysis, both the instrumental and normative stakeholder approach can also be applied. This can be applied in the case of the Qaryah Thayyibah telecentre. The normative stakeholder approach suggests that the telecentre should take all stakeholders into consideration in terms of engaging for participation and maximising the benefits for them, as a social and moral responsibility. However, taking into account *all* stakeholders may prove difficult if not impossible, as shown in the identified challenge of making the community less indifferent to the telecentre.

Applying the stakeholder framework in the investigating the impact of ICTs was also done through a series of stakeholder analysis. This proved useful for defining relationships – between the organisation and the stakeholder and also between the stakeholders themselves. The analysis was done following Varvasovszky and Brugha's (2000) stakeholder table (see **Error! Reference s ource not found.** for original example, and Table 5-2 for the analysis in this research) and reinforced by Gavin and Pinder's (2001) matrix analysing the influence and importance of each stakeholder (see **Error! Reference source not found.** for original example, and Figure 5-3 for the analysis in this research). From this series of stakeholder analysis important issues were found, such as who experienced the most profound impact and who had not. It helped in identifying gaps and factors concerning the maximisation of impacts. For example, the students experienced the most profound impact out of their interaction with ICTs, but for other members it was not clearly felt. The value of the local champion in the establishment and sustainability of the telecentre was also identified through this stakeholder analysis. The stakeholder analysis was also useful in identifying gaps to improve and further sustain the telecentre. This can be seen from the underutilisation of the community members as a prominent stakeholder. From this gap analysis the community were made aware of the gap and could identify ways of filling it.

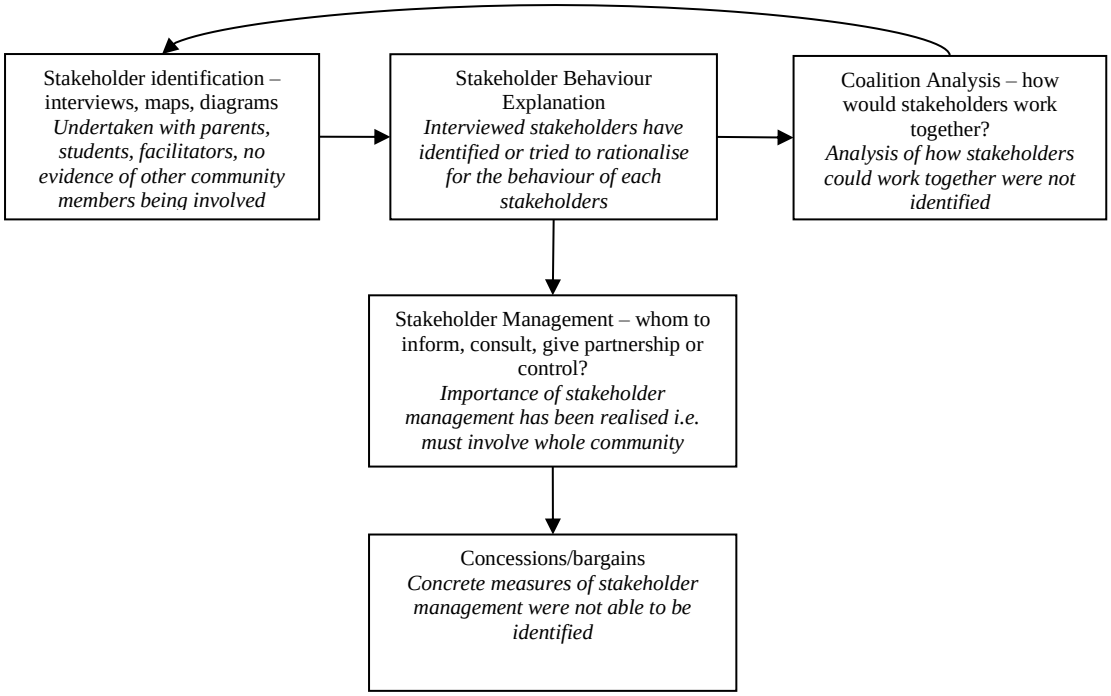

Figure 5-4. Application of the stakeholder framework in Qaryah Thayyibah telecentre

Overall, the application of the stakeholder framework in this research can be analysed using Bailur's (2006) stakeholder framework in analysing telecentre projects. The sequence of analysis were explained in the discussion on theoretical framework and laid out in **Error! Reference s ource not found.**. In this research, *stakeholder identification* was done in the interviews. The stakeholder analysis presented in Table 5-2 and Figure 5-3 provided an *explanation of stakeholder behaviour*, which identified gaps on *how the stakeholders work together*. The stakeholder behaviour explanation, which identified interest, influence, power, support, importance and impact were used to decide *how the stakeholders are managed* i.e. whom to inform, consult, give partnership or control. It also helped to identify in creating concessions or bargains in terms of measures to maximise the benefit of the initiative for the sustainability of the initiative and also for the stakeholders themselves. Besides for describing the analysis of this research, Bailur's stakeholder framework can also be used to further analyse how Qaryah Thayyibah considers its stakeholders. This is described in Figure 5-4. From the stakeholder framework, it was found that although Qaryah Thayyibah recognised its stakeholders as being important, enough measures had not been made to maximise both the telecentre and the benefits

for the stakeholders themselves through thorough coalition analysis and stakeholder management.

5.6 Conclusion

The Qaryah Thayyibah Learning Community has successfully implemented the use of ICTs to adapt to their own environment. These uses were mainly focused around learning and networking purposes. It was revealed that ICTs served as a resource out of the many resources that they have pooled in the village resource centre. This was the key relationship between ICTs and community in relation to development; that ICTs as a resource was being used to learn and network as a medium for production. The process and end result of this 'production' would eventually empower the individual and ultimately the community. Furthermore, analysing these impacts from the perspective of stakeholder theory has shown that ICTs have impacted directly on the students. The stakeholder analysis also revealed the significance of the innovator or local champion in the Qaryah Thayyibah Learning Community who mediated the process of harnessing these ICTs; that without this innovator the initiative would not be as successful.

Analysing from the stakeholder perspective, it was also found that ICTs in Qaryah Thayyibah has yet to impact on the whole community. Even then, those involved in harnessing ICTs have realised that development is an ongoing process and that finally it must lead to a better society, so they still respected other community members' opposition or indifference towards ICTs and the learning community. Therefore, although the telecentre at Qaryah Thayyibah has yet to impact the whole community, but within the learning community there are notions of community empowerment and the process of conscientisation within the people to be able to achieve the development objectives of improving their living standards and maintaining sustainability of their environment.

CHAPTER 6 CONCLUSION

6.1 Introduction

The report has so far given an account of the review on the literature of ICTs for social change and the methodology adopted for the research. Its results and findings have been analysed to be concluded into the impacts of ICTs for social change in Qaryah Thayyibah. This section will critically analyse the findings in terms of the impacts of ICTs for social change. It will also provide a reflection of the thesis, describing its strengths, limitations, and experiences of the researcher in conducting research in the field. Lastly, recommendations will be made for further research opportunities.

6.2 Impact of ICTs for Social Change

The research attempted to study the impacts of ICTs for social change in Qaryah Thayyibah Learning Community. The application of the stakeholder theory in the impact analysis of ICTs proved to be useful in revealing some prominent findings. Based on the findings, the apparent impact of ICTs in Qaryah Thayyibah were to contribute in the professional development of its users by gaining life skills that they use to create products and ultimately become empowered. The impact was felt most by the students and those directly involved in the activities at Qaryah Thayyibah Learning Community, whereas the larger community in the village were yet to experience the impacts. By having a sense of ownership of the initiative, and constant mobilising done by the local champion, the telecentre at Qaryah Thayyibah is achieving self-sustainability. In relation to that, by appropriating ICTs to adapt to their local needs, the community at Qaryah Thayyibah was on their way to reaching empowerment. The stakeholder framework provided an analysis of the impact of ICTs, which were used to answer the initial research questions. The impact analysis in relation to answering each research question is described as follows:

RQ1. How has the use of ICTs in Qaryah Thayyibah affected the lives of its students, especially in its goal of achieving empowerment?

To find how the use of ICTs affect Qaryah Thayyibah students, an identification of the usage of ICTs by the students were done. It was found that the students were mainly using the ICTs at their telecentre for learning and networking. The skills that they learn were not directly attained through the services that ICTs have given them; they also learnt other skills such as the management and operation of a telecentre, and learning to understand their role as agents of change in their community. Integrating ICTs with everyday learning of the students proved to be effective with the students producing many creative works out of their ability of using ICTs. It is argued that to achieve development, education is an effective tool and valuable investment, as is ICTs, so integrating both may provide positive impacts (Rennie, 2007). Thus, for the students, ICTs have impacted their lives and contributed to their development and empowerment, although the development is not directly affected by ICTs but the factors underlying it such as the philosophy behind its use and management.

RQ2. Does the existence of Qaryah Thayyibah also affect the lives of the people of Kalibening Village and how does it relate to the application of ICTs in the village?

The data gathered from observations and interviews have shown that the telecentre at Qaryah Thayyibah Learning Community had yet to affect the whole of Kalibening Village. There were still people who opposed and were indifferent. However, the people involved at Qaryah Thayyibah recognised this problem and still accommodated the people by viewing that, as stated by Melkote and Steeves (2001) and Burkey (1993), empowerment through participatory approaches is a process over time. Even though they have realised this gap, they were not able to identify concrete solutions on the way forward that would overcome the problem raising consciousness and awareness of other community members on the importance of the resource centre and the ICTs as part of it, as a medium for their personal development and the achievement of a better society.

RQ3. The use of ICTs in Kalibening Village is community-initiated as opposed to externally-funded. Does this make a difference on the empowerment of the community?

The Qaryah Thayyibah Learning Community had come up with the resource centre concept that views ICTs as a resource available for the whole village, in order to empower the community. This concept suggest that they have appropriated ICTs and other technologies to be used for the

development of the community, and thus paving the way for community empowerment (FAO, 2003). Empowerment of the community that is mediated through ICTs makes sense when ICTs are seen as a resource – a means to an end, rather than as an end in itself (Heeks, 2002). This can be done because the community felt they own the ICTs and the resources. With a sense of ownership comes the sense of responsibility, which would affect on the sustainability of the initiative (O Siochru and Girard, 2005). In this case, it is argued in this report that in Qaryah Thayyibah, the community had applied Heeks's (2002: 10) *i-development* approach in maximising the impact of ICTs for the empowerment of the community by making ICTs *information-centred, integral to its environment, integrated with development objectives, intermediated, interconnected, indigenised, and above all, intelligent*.

However, from the stakeholder analysis, it was found that another important factor that contributed to the present condition of Qaryah Thayyibah was the influence of the founder. The founder can be classified as the local champion or the innovator. The concept of empowerment that kept reiterating through the interactions with the Qaryah Thayyibah community was largely derived from his ideas. Without his support in the years from the conception of the telecentre up to present day, the telecentre would not have been able to sustain itself the way it is doing now. It is important to find out how the initiative would operate in the future if this local champion is no longer in the picture. Would the telecentre be able to sustain itself? And if so, what were the factors? Were the stakeholders had been mobilised enough to realise the importance of ICTs, or would other local champions emerge in the picture to keep mobilising the community? These are interesting questions to address, particularly to see how deep the consciousness-raising process had been implemented in the community.

6.3 Thesis Reflections

The research has substantially contributed to the literature of impact analysis of community-driven ICTs initiatives that were significantly lacking. This research has also been a medium to voice the stories and experiences of the Qaryah Thayyibah Learning Community, people at the grassroots levels who otherwise could not gain an international audience to find out about who they are and what they do. However, in conducting the research, several limitations were identified. The major limitation that was felt was that of time constraint. Research was done in

only 12 weeks from its conception to the report writing. Fieldwork was only able to be one for 1 week, not allowing all stakeholders to be accounted for in the research. The researcher was new to the field of social science research, and when conducting fieldwork, it proved to be a daunting task for the researcher to undertake. Although, the openness of the founder and the other people at Qaryah Thayyibah greatly contributed in maximising the fieldwork experience to its best potential One other reflection worth mentioning is how assumptions were made of the place prior to going to the field, assumptions that were related to the characteristics of people in a rural village and their abilities. In the field, the researcher found that these people were as capable as anyone else, or even more, to take charge of their own course in achieving their own kind of development. It proved a great lesson to be learnt for future research attempts.

6.4 Recommendations for Further Research

The Qaryah Thayyibah Learning Community has contributed to the richness of grassroots movements for empowerment. This research has provided a pavement for further research into the impacts of ICTs for social change, especially from the perspective of community-driven ICTs initiatives. Drawing on the case study of Qaryah Thayyibah, a deeper analysis of impacts that encompasses the whole community, for example the community in the village of Kalibening, need to be investigated further. To do so, an engagement with more stakeholders will be required, not covering just the learning community, but all stakeholders including community members, local leaders, and relevant government officials at different levels (i.e. local, provincial, and national) in charge of education and ICTs development. Furthermore, a comparative analysis that benchmarks Qaryah Thayyibah with other existing telecentres in Indonesia and other countries could prove useful for investigating the impacts of ICTs, when compared to other ICTs initiatives. For example, aligning Qaryah Thayyibah with a government- or donor-funded telecentre that was listed earlier in the literature review would provide an interesting comparison to be analysed. Also, aligning Qaryah Thayyibah with other community-driven initiatives, in the country or elsewhere in the world, in order to seek factors for sustainability and best practice, could further provide a significant contribution to the research on ICTs for development, especially in Indonesia and South East Asia where this kind of research is not abundant.

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Appendix A Information Letter and Consent Form

Information Letter – English

24th August 2009

Information and communication technologies for social change: a case study of Qaryah Thayyibah Learning Community

My name is Wichitra Yasya. I am currently pursuing my study in Master of Communication in Communication for Social Change at the University of Queensland, Brisbane, Australia. As part of the program, I am conducting research on the impact of information and communication technologies (ICTs) in social change especially in empowerment and using the case of Qaryah Thayyibah Learning Community as a community telecentre. The study aims to contribute to the knowledge of the impacts of ICTs in social change and empowerment.

I will be grateful if you could spare the time to participate in the research. This will involve me as the researcher asking questions to the respondents that are seen as stakeholders in the telecentre. All the data obtained are ensured to meet confidentiality, privacy and anonymity where the names of respondents will not be published in the research report or any other documents other than the raw data obtained. You are welcome to find out any progress regarding the research pertaining to the data you have given, and the final product will be made available to you at your request.

Your participation in this research, however, is voluntary and you may withdraw at any time if you wish without prejudice.

I express my gratitude for your attention and cooperation. If you need further information please contact me by phone 081380089160 or email wichitra.yasya@uqconnect.edu.au or you can contact my supervisor Associate Professor Pradip Thomas by phone 61 7 3346 8243 or email pradip.thomas@uq.edu.au.

Kind regards,

Wichitra Yasya

Consent Form – English

Information and communication technologies for social change: a case study of Qaryah Thayyibah Learning Community

I am willing to participate in the study conducted by Wichitra Yasya as part of her thesis research and I direct that the information may be used in the following way(s):

1. for research or study purposes
2. in seminars and conference presentations
3. published in academic journals, books, periodicals and other publications

I understand that:
a) to ensure confidentiality and privacy, my name will not be used to identify individual interviewees/respondents and all persons referred to in the transcript, unless in such cases where I was asked the permission for my name and other information be published and that I am willing to do so; and
b) participation in voluntary and I may withdraw at any time.

I hereby agree to be involved in the above research project as a respondent. I have read the research information sheet pertaining to this research project and understand the nature of the research and my role in it.

Signature of respondent

_____
Date:

Information Letter – Bahasa Indonesia

24 Agustus 2009

Teknologi Informasi dan Komunikasi untuk Perubahan Sosial: Studi Kasus Komunitas Belajar Qaryah Thayyibah

Perkenalkan nama saya Wichitra Yasya. Saat ini saya sedang menempuh studi S2 di bidang Komunikasi dengan spesialisasi Komunikasi untuk Perubahan Sosial di University of Queensland, Brisbane, Australia. Dalam rangka menyelesaikan program tersebut, saya mengadakan penelitian tentang peran teknologi informasi dan komunikasi (TIK) dalam perubahan sosial khususnya dalam pemberdayaan masyarakat dengan mengambil studi kasus Komunitas Belajar Qaryah Thayyibah. Studi ini diharapkan dapat memberikan pengetahuan yang mendalam tentang peran TIK dalam pembangunan sosial dan pemberdayaan masyarakat.

Saya sangat berterimakasih apabila Bapak/Ibu/Sdr/i dapat menyediakan waktu untuk berpartisipasi dalam penelitian ini. Bapak/Ibu/Sdr/i diminta untuk menjawab beberapa pertanyaan dan berdiskusi tentang peran Bapak/Ibu/Sdr/i sebagai *stakeholder* dalam *telecentre* ini. Semua data dijamin kerahasiaannya, nama serta identitas perserta tidak akan dicantumkan dalam hasil penelitian atau dokumen lainnya selain data mentah dari hasil wawancara. Bapak/Ibu/Sdr/i dipersilakan untuk mengetahui perkembangan penelitian ini dan hasil penelitian akan dapat diakses oleh Bapak/Ibu/Sdr/i.

Perlu diketahui bahwa partisipasi Bapak/Ibu/Sdr/i adalah sukarela dan dapat berhenti turut serta setiap saat bilamana perlu tanpa syarat.

Saya mengucapkan banyak terima kasih atas kerjasama dan perhatian Bapak/Ibu/Sdr/i. Apabila memerlukan penjelasan lebih lanjut silakan menghubungi saya melalui telepon 081380089160 atau email wichitra.yasya@uqconnect.edu.au atau dapat menghubungi supervisor saya Associate Professor Pradip Thomas melalui telepon 61 7 3346 8243 atau email pradip.thomas@uq.edu.au.

Hormat saya,

Wichitra Yasya

Consent Form – Bahasa Indonesia

SURAT PERNYATAAN

Saya bersedia berperan serta dalam studi yang dilaksanakan oleh Saudari Wichitra Yasya sebagai bagian dari penelitian thesis program S2 ybs, dan saya menyatakan bahwa informasi yang diberikan dapat digunakan dengan berbagai cara:

1. untuk tujuan penelitian atau studi
2. dalam penyajian seminar atau konferensi
3. diterbitkan dalam jurnal akademik, buku, terbitan berkala dan terbitan lainnya

Saya memahami bahwa:
a) untuk menjamin kerahasiaan nama dan identitas saya serta beberapa nama yang disebut dalam wawancara, tidak akan dicantumkan dalam hasil penelitian kecuali apabila saya bersedia dan telah diberitahu dan diminta ijin sebelumnya; dan
b) keikutsertaan saya adalah secara sukarela serta dapat berhenti turut setiap saat bilamana perlu.

Dengan ini saya setuju untuk berpartisipasi dalam penelitian ini sebagai responden. Saya telah membaca Lembar Informasi Penelitian mengenai penelitian ini dan mengerti kondisi penelitian dan peranserta saya di dalamnya.

(Tanda tangan)

_____

Tanggal:

Appendix B Interview Questions

i. Age?

ii. Gender?

iii. Occupation?

1. Are you familiar with the computer?
2. How often do you use the computer?
3. What do you use the computer for?
4. Where did you learn the skills to use the computer?
5. From where did you access the computer?
6. What other technological tools are you familiar with?
7. How did you become familiar with them?
8. How often do you visit the telecentre?
9. What is your perception about ICTs access provided in the telecentre?
10. If the telecentre did not provide such facilities (computer, Internet access, etc) would it make a difference on your personal development?
11. Do you think the telecentre has impacted your community? In what ways?

Appendix C List of Codes on NVivo 8

Table 3. List of codes and the issues each code was discussed in

Code	Topic Code	Issue in discussion
computer access	Physical access	Access
use by the young	Generation	Access
use by boys vs girls	Gender	Access
use for hobby	Learning	Access
use for playing games	Learning	Access
use for studying	Learning	Access
use for socialising	Networking	Access
use for work	Networking	Access
community support	Participation	Participation (community - ICT relationship)
operating system	Participation	Participation (community - ICT relationship)
ICT is a tool	Resource centre concept	Participation (community - ICT relationship) → Impact
importance of ICT	Resource centre concept	Impact
empowerment	Resource centre concept	Impact
innovator influence	Value of local champion	Impact

Table 4. Casebook of interview respondents

Respondent	Gender	Generation	Occupation*	Stakeholder Type*
A	Male	Adult	Peasant group activist	Founder
B	Male	Young	Student	Student
C	Female	Young	Student	Student
D	Female	Young	Student	Student
E	Male	Adult	Tradesman	Parent
F	Male	Adult	Teacher	Teacher
G	Female	Young	Student	Student
H	Male	Young	Student	Student
I	Male	Adult	Peasant group activist	Teacher
J	Male	Adult	Carpenter	Parent

*may overlap, e.g. Respondent F is *Teacher* and *Parent*, Respondent I is *Peasant Group Activist* and *Teacher*