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# Cultural Politics of the Digital Divide in Thailand[1]

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[1] This paper was originally presented at the Third International Convention of Asia Scholars, Singapore, August 19-22, 2003. I would like to thank Mr. Govindan Parayil, who organized the panel in which this paper was presented, for making it possible for me to come to Singapore to this very intellectually stimulating meeting. Even though it has been a rather long time since it was presented, I believe that the analysis and the policy recommendations to combat the digital divide are still valid. The challenge now is for us to see whether the very widespread use of mobile internet can reduce the digital divide in a significant way. That is, the challenge is to see whether mobile internet could bring about the real benefits that access to the internet is supposed to bring.

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## Introduction

Computers and information technological devices have become ubiquitous. A day hardly passes by without news on the latest development trends or existing gadgets used in imaginative ways. It seems that no corner in our personal or business life is devoid of technology. This is an illusion, however, since large sections of the global population, including the majority of people in the developing world and many others in developed nations, are somehow technologically marginalized and, as yet, unable to enjoy the benefits and convenience that these devices bring to their users. The situation, known as the 'digital divide', is a phenomenon created by the unequal or uneven diffusion of information technology. The digital divide problem has been discussed at length but few solutions have been advanced on how to resolve it. The underlying idea is that the digital divide is a form of inequality or injustice, so that what is usually reported in the literature and discussion of the topic – mostly from those who are involved in the information technology industry – appears to suggest that this inequality or injustice could be rectified by connecting people to the global network and providing them with the necessary hardware. Such ready-made solutions seem to suggest that it is possible to 'bridge' the divide by providing users with the physical infrastructure such as computers, telephone networks, network routers and so on.

This paper is a contribution to the growing awareness that, while manifestly essential, physical infrastructure alone cannot bridge, nor solve, the digital divide. What more is needed, however, is not

a simple matter, until the context for using computers and networks has been comprehensively studied. My contribution resonates with numerous studies on the topic, and particularly the work by DiMaggio and Hargittai (2001), which argues for a terminological move from 'digital divide' to 'digital inequality'. In their view, digital inequality exposes the crux of the problem, which goes beyond the concept of access to the digital age, or lack of it, as the case may be. Another closely related study is by Warschauer (2003), advocating for 'social inclusion' rather than defining the problem in terms of 'digital divide'. Furthermore, this paper goes beyond the semantics of the issue, focusing on the broad inequality of access to, and the ability to make full use of, the digital technologies as the major components of the problem.

My contribution will be to suggest what is required for a broader understanding of the digital divide. Through observation of the policies of successive Thai governments (both civilian and military) to solve the digital divide problem, I will argue that the mere provision of the necessary hardware infrastructure is likely to meet with partial success, since it fails to take into account important aspects of cultural consideration. My conclusions partly support the findings by Borgida et al. (2002), where the concept of social capital is an essential tool for understanding the phenomenon of digital divide or digital inequality. Moreover, bridging the digital divide should aim at enhancing the imaginative, creative or cognitive capabilities of a population, rather than being limited to the provision of the means to obtain information, as seems to be the premise in numerous studies on the issue.

Education and understanding of the technology are necessary but may not be enough, since technology needs to mesh into people's way of life and attitudes. Similarly to the way in which the telephone is now an integral part of our life, computers can be integrated into the fabric of our world, provided that due consideration is given to factors inherent to their use.

## Digital Divide in Thailand

The digital divide in Thailand is defined as a problem of disparity between those who have access to the physical infrastructure and those who do not[3]. The very rapid adoption of mobile telephony in Thailand has given rise to a corresponding rapid adoption of the internet. As a strong alternative means of access, mobile phones have considerably reduced the digital divide in Thailand (Srinuan, Srinuan & Bohlin, 2012; Kilenthong & Odton, 2014). The latest figures in the Index of Thai Science and Technology (2015), report a total of 5.6 million fixed telephone lines, and 97.1 million unique mobile phone numbers, for a total population of 66 million (Potentials in Science, Technology and Innovation of Thailand, 2015). This dramatic increase is due to price, availability of fixed telephony, age and catchment area. However, it is also conceivable that this level of penetration is connected to the ease of use and the practical ways in which users interact with mobile

[3] The meaning of 'digital divide' has changed over the years. In the 1980s and early 1990s, it referred to the divide between people with or without access to the telephone. After the 1990s, 'digital divide' defined people with or without internet access, particularly broadband.

phones, which younger generations perceive as extensions of their personality. Table 1 illustrates the rapid increase of internet penetration among individuals and households in Thailand. Statistics published by the Thai Science, Technology and Innovation Index report that internet usage for both individuals and households has steadily increased. In Table 1, as of 2014, more than one third of both individuals and households in Thailand are internet users. Thus, the physical digital gap is narrowing. However, whether this narrowing will lead to effective IT usage among Thais, thereby reducing or eliminating digital inequality altogether, has yet to be stablished, as the discussion in the next sections will argue.

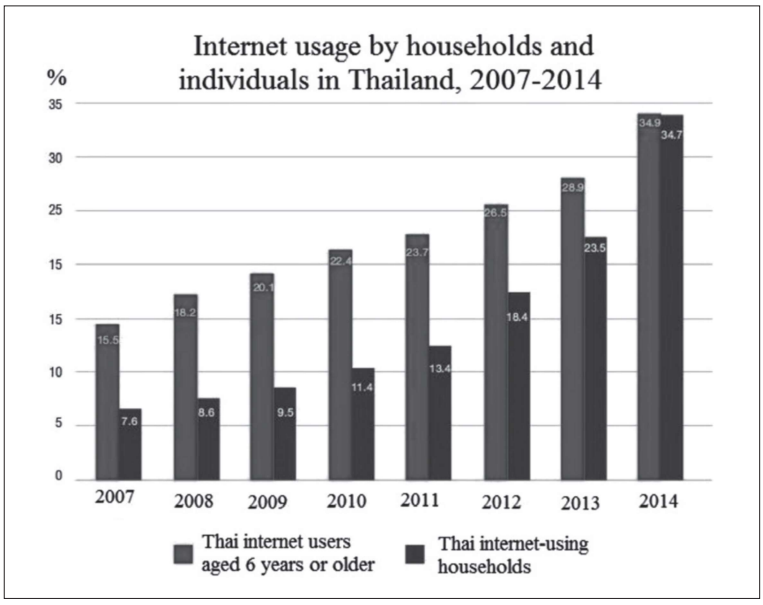


**Table 1.** Internet usage by households and individuals in Thailand, 2007-2014.

Source: adapted from Potentials in Science, Technology and Innovation of Thailand, 2015, p. 45.

Other internet usage statistics place Thailand in 25th place globally, with 27.4 million users at 2015, equivalent to a penetration of 40.3% (calculated on a population of 67.9 million)[5]. As regards the mobile phone sector in Thailand, penetration rate for the fourth quarter of 2014 has been calculated as high as 146%, based on 83 million subscribers and 20 million mobile handsets sold in Thailand in 2014 (of which 16.5 million were smartphones)[6]. These impressive statistics are geographically selective, however, with significant gaps identified between users in the capital city of Bangkok and elsewhere in Thailand. In summary, there are clear indications of a digital divide in numerous dimensions involving Thailand.

In the following section, I shall outline some attempts by the Thai government to address the digital divide problem. Then I shall present my analysis and a critical appraisal of these attempts. These statistics show that disparity of access to physical infrastructure is no longer a problem for Thailand. However, the problem persists in another form, especially if we consider that mere access to physical infrastructure is not an effective solution when considering the real goal of using information and communication technologies. Part of the goal aims at a more 'enlightened' populace due to the increased connectivity, but this goal has proved somewhat elusive.

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[5] Internet Users by Country (2015), internet live stats, http://www.internetlivestats.com/internet-users-by-country/2015/ (accessed 11 May 2016).

[6] Thailand's Mobile Market Information Q4 2014, http://www.slideshare.net/yozzo1/thailands-mobile-market-information-q4-2014, http://www.slideshare.net/yozzo1/thailands-mobile-market-information-q4-2014 (accessed 11 May 2016).

## Past and Current Attempts to Bridge the Digital Divide in Thailand

### 'Computer-for-school' project

During the administration led by Prime Minister Chavalit Yongjaiyuth (1996-1997), Education Minister Sukhavit Rangsitpol initiated a nationwide policy of providing schools with computers. The project entailed the purchase of computers, with government funds, for distribution to schools in Thailand, including schools in remote parts of the country. It appears that no prior studies were conducted to assess the needs of the schools, nor how the computers would fit into their way of life. Moreover, there was no consultation process involving the schools or the village communities on the type of units to be purchased, nor was there an assessment of the way or purpose to which the units would be put to use. A large number of computers was purchased and distributed to the schools, assuming parity among all the learning institutions and without consideration for regional diversity within Thailand.

The scheme resembled the currently existing policy of distributing milk to schoolchildren nationwide, which is another government policy aimed at reducing the disparity between the rich and the poor, in this case the 'health divide' between schoolchildren in the urban, Western-oriented middle-class areas who enjoy drinking milk, and their counterparts in the countryside, who would otherwise not be able to, or would not want to, drink milk. The idea is that the

government uses public funds to buy large quantities of milk from local producers, for daily distribution to the schoolchildren. The schools are only required to take delivery of their milk quota and to ensure that the students actually get to drink it daily. The parallel with the 'Computer-for-School' project is that the schools and the children are not involved in the decision-making as to what kind of computers, what software, what kind of milk, how much quantity or, indeed, what flavor they will drink every day they are in school. They were only required to be present when the computers or the milk were delivered. There was no discussion on how the computers would be used or how they would fit into the lives of the villagers and their children attending those schools. In the milk case, this is striking, since milk is not normally part of the Thai diet, and there are other ways to guarantee good health by omitting milk from a balanced diet. However, policy dictated that schoolchildren were required to drink milk daily, so a dissonance is created between the policy and the typical way of life of the people. A typical picture in Thai schools is that the children sit in a long row drinking milk under the watchful eye of their teachers. The children do not enjoy their milk as much as their favorite foods, and it is apparent that the milk bears little or no relation to their overall diet. It is reasonable to surmise that, given a choice, the schoolchildren would gladly opt out of drinking their daily milk ration. As for the 'Computer-for-School' project, the stated intention was to bridge the digital divide through the distribution of free computers. However, here, too, there is little or no connection between the villagers' and children's way of life, and the computers they have received through this

government project. It has been reported that, in a few instances, computers were distributed to schools which were not connected to the electricity grid. There is an assumption that central government knows best where schoolchildren's diet is concerned and the kind of computers and software they should be using. This kind of paternalistic attitude has characterized the Thai government's dealings with its people for centuries.

While the milk rations may be a well-intentioned initiative (provided we err on the side of optimism), the 'Computer-for-School' policy was an abject failure. As mentioned earlier, some computers were delivered to schools which did not have electricity, while other institutions could not access the internet because they were not connected to a telephone line. Furthermore, many more schools lacked the personnel capable of running them effectively. The computers, in effect, became sacred objects, symbolizing the power of central government. Moreover, it has never been established whether the quality of the computers was independently assessed. Thus, there was no way of ensuring a transparent process, to ascertain that funds from the public purse were spent in a way that brought benefit to those in need.

## 'Good-Wish' Computers Project

More recently, the Thaksin administration (2001-2006), through the Ministry of Information and Communication Technology (Ministry of ICT), instituted the sale of computers to government workers and to the general public at a discounted price. The scheme, called

*"Computer Uea aathorn"* in Thai, or "Good-Wish-Computers", aimed at selling notebooks or desktop versions to the population. A starting price of 10,000 baht (approx. US$330)[7], could buy a basic desktop unit, while a top-of-the-range notebook cost around 35,000 baht (US$1,167). The units were being sold at very low prices, since most PCs in Thailand retail for around 25,000 baht (US$830) as a starting price. The computers run a version of the LINUX operating system developed by NECTEC, which contributed to their lower cost, since to use the more popular Microsoft Windows operating system would inevitably entail a higher price on account of the royalties payable by the computer manufacturers to Microsoft, whereas LINUX is open source and can be obtained free of charge from the public domain. The version of LINUX developed by NECTEC is geared towards the Thai language environment and since NECTEC is a public agency, its products can be used without copyright infringement. Moreover, the computer manufacturers are persuaded to participate in the program, since the government promises that the high volume of sales will offset any loss in their profits. To date, more than 20,000 'Good-Wish-Computers' have been sold to the public, and this has resulted in a healthy state of competition in the Thai computer market, as leading manufacturers find that, to maintain profit margins, they must stress quality as a key component, or they need to reduce prices to remain competitive.

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[7] Converted at a rate of 1 US dollar = 30 Thai baht.

The main objective of the project is the same as the 'Computer-for-School' project initiated by the previous government, namely, to bridge the digital divide, 'enlighten' the Thai population and make up-to-date news and information available to them so that they are capable of functioning effectively in the globalized, competitive world. The computers are not only intended for the general population but many more have also been earmarked for the country's large number of civil servants. Since the government relies on economies of scale, it is understandable that the civil servants would be requested to buy these computers because they are almost a captive market. Besides, the government also has a policy of upgrading the skills of its workers, meaning that the civil servants are required to have mastered use of a computer at work. According to Thailand's first Minister of Information and Communication Technology, Dr.Surapong Suebwonglee, the government planned to distribute no fewer than one million such computers to the population. If this becomes a reality, then this would likely create a considerable impact on the digital divide problem in the country.

This new policy is, in actual fact, another version of several 'Good Wish' policies promoted by the Thaksin administration to bring goods and services to the poor at a very low cost. The government is well known for its policy of assisting the poor through schemes that sell goods and services at low cost. Apart from selling affordable computers, under the leadership of ousted Thaksin Shinawatra, the government also sold houses and plots of land through its 'Good Wish' Housing Project. The scheme allowed low-income individuals and

families to purchase a property or a small land holding at the relatively low cost of 300,000 baht (US$10,000) per 25 square wa of land (100 square meters)[8]. This project is managed by the Housing Authority of Thailand, a state enterprise tasked with providing housing for the urban population. Several other 'Good Wish' projects are in existence, like the 'Good Wish' insurance policy, which allows Thai citizens to purchase life- and accident-cover for a daily rate of just 1 baht (US$ 0.03), or the 'Good Wish' taxi service, a car-rental service that can be used as a taxicab at a very low price, to mention just two initiatives. *'Uea aathorn'* in Thailand has become a household name synonymous with inexpensive goods and services targeted at low-income citizens.

## 'One-Tablet-per-Child' project

The most recent attempt at closing the digital divide, and to find a way to use ICT in education, is the 'One-Tablet-per-Child' project enacted during the Yingluck Shinawatra administration (ousted by a military coup in May 2014). In 2012, the Thai government commissioned one of the largest, single-procurements of computer tablets in the world, when it ordered 800,000 tablets to distribute to schoolchildren, aimed at upgrading the quality of education. The policy followed an earlier study purporting to show that using a tablet-computer was an effective way of improving education (EDSC, 2013). However, another study reports

[8] Thailand adopted metrication in 1923 but some traditional units of measure, like the wa, are still in current use, particularly for land measurement. One wa equals 2 metres and one square wa equals 4 square metres.

that students tend to use the tablet mostly for passive viewing rather than for active learning (Viriyapong & Harfield, 2013).

Moreover, a study by Pruet et al. (2016) confirms that there is limited empirical evidence on the effectiveness of tablets in the classroom. There are some key differences in the students' home locations and gender, which appear to impact on the use of the tablet. Additionally, the study relates that rural students experience higher anxiety levels regarding tablet use and that their academic progress is affected by experiences in technology, collaborative learning and apprehension (Pruet et al., 2016). As with the previous projects aimed at increasing education quality among Thai schoolchildren, this project also met with partial success, since it focused almost exclusively on the hardware – providing computer tablets to schoolchildren as the overriding objective – without due consideration on their use. This is evident in the software installed on the state-provided tablets: not exactly state-of-the-art, with a focus on learning by rote (memorization) rather than active inquiry.

## Other projects

There have been other projects aimed at narrowing the digital divide. In 1995, for instance, the National Electronics and Computer Technology Center (NECTEC) launched the SchoolNet project, to connect schools nationwide to the internet. News and information, as well as course material, was channeled to the schools to facilitate learning. The overall objective was to enable schools throughout the

country to connect to the internet through phone lines at the rate of 3 baht (US$ 10 cents) per connection. Schools participating in the program can use their modems to call a dedicated phone line and connect to the central server of the project, which contains news and information related to online learning and which acts as a forum where schoolchildren and teachers can communicate with their peers in the country. At 2003, the 2,000 participating schools represented 5.8 percent of the total number of schools (Hongladarom & Entz, 2003: 15).

In addition, there is the 'Clean internet' project, organized by CAT Telecom - the country's monopoly holder of internet connection to the outside world. This project aims at reducing the cost of internet connection to only 1 baht per hour, which compares favorably with the fees charged by the majority of internet service providers (ISP) in Thailand. Users are required to purchase a special card and use their modem to call a dedicated line in order to connect to the project's central server located at http://www.cat.net.th/cleannet/. This site collects a number of links to government agencies, schools and other information holding sites, and it is publicized as a site free from pornographic material. However, users are unable to connect to any other sites except through this central portal.

## What Do These Projects Tell Us?

The 'Computer-for-School' project met with very limited success because there was no attempt to understand the contexts in which the computers were going to be used. Numerous studies have shown that computers, as is the case with other technologies, do not

exist in a vacuum, but are interconnected in various ways with the times, places and people they are in contact with (Tiles, 1995: 116-142). In this case, nonetheless, it could be said that there is a sense in which the computers do actually exist in a vacuum. Since they are not used, and in some instances they cannot be used, the computers are nothing more than an expensive piece of furniture. They are 'used', if at all, to symbolize the power of the central government vis-à-vis the state schools, to show how deeply centralized the system is. They bear little or no relation to the villagers, their children and the schools they are supposed to serve. Moreover, in the cases where they are actually used, they are used in ways which do not foster creativity. For example, they are mostly used for clerical tasks, like generating memos. As for the students, they often use the state-sponsored computers in the context of classroom study where the teacher tells the students how to operate certain application programs. Very rarely are the students allowed to let their imagination roam freely on a computer or an application program of their choice, or to wander around in cyberspace.

This phenomenon is typical of a Thai school, characterized by little motivation for the children to develop an inquiring mind and to explore or search for knowledge on their own. Hence, when using computers, most Thai schoolchildren use it either as a tool for entertainment or for completing assigned projects that are largely routinized. The way they relate to computers bears little or no relation to the way that genuinely enhances their imaginative and cognitive abilities. Moreover, my experience with Thai internet cafés leads me to believe that most Thai children are in fact more interested in playing

online games than 'surfing the net'. In a typical café in a seaside resort town popular with tourists, most Thai users are of school age, and they almost always come to the cafés to play online games with their friends, whereas foreign tourists tend to connect to the internet. If this trend continues, then it should not come as a surprise if the policies outlined above fail to bridge the digital divide. If the term 'digital divide' is conceptualized, not in terms of the sheer disparity in numbers detailed earlier, but instead as an inequality in the capacity to make full use of the internet in a way that contributes to intellectual or emotional growth, then it is quite obvious that much more needs to be done to address the problem. Simply providing these students with new computers will likely not work, because of the documented outcome that students tend to use them to play games or for routine school projects which they enjoy up to a point.

On the other hand, the government's attempt with the 'Good-Wish' computers does not improve the situation significantly. With this project, it is possible to buy a computer at very low price. However, it is doubtful whether this scheme can actually bridge the digital divide, since the typical computer buyer is already computer literate. Even though there has been no specific study on this topic, it is understandable that most buyers of reasonably-priced computers either own one already and are buying a second one, or are using them quite extensively at school or at work. In short, most of these buyers are already computer users. This runs counter to the government's intention of bridging the digital divide by making low-cost units accessible to sections

of the population which were not computer-owners before. What appears to have happened, instead, is that these deprived, potential users are still somewhat excluded from participating in the scheme. Thus, this current project threatens to widen the digital divide, rather than bridge it, by enabling computer owners to buy additional units at very low cost.

The common ground between these two schemes, both of which aim a closing the digital divide, is their focus on bringing the hardware and physical infrastructure to the population, with scant consideration for the level of computer literacy of the intended recipients. These schemes are also similar to the other 'Good-Wish' projects and the 'One-Tablet-per-Child' project, in that they attempt to benefit low-income families or schoolchildren. Inevitably, as already stated, the rate of success is limited because they lack participation from the target group(s) and essential information on their needs and on the kind of historical and socio-cultural contexts the goods and services are to be employed. This finding thus concurs with the argument advanced by Warschauer (2003), where social inclusion should prevail over mere attention to the digital divide. The 'Computer-for-School' and the 'One Tablet-per-Child' projects clearly demonstrated that simply providing hardware as a way to close the digital divide is not enough. The main difference between these two government policies lies in the fact that the former entailed a purchase, albeit at a heavily discounted price. This constitutes only a superficial difference, since the core is the same, in that both schemes try to help low-income individuals and families with the purchase of some form of hardware. These policies

would probably work very well if the computers were actually needed and people knew how to operate them at a basic level, and were sufficiently familiar with their workings in order to harness their full power and potential. So the digital divide appears nowhere narrowed.

In "Growing Science in Thai Soil: Science, Globalisation and Cultural Identity in Thailand" (Hongladarom, 2004), I argue that capabilities in science and technology should be 'grown' from the ground up in the respective localities; these capabilities cannot be planted or transferred from one place to another without severe disruption in patterns of living, which could prove counterproductive. Since economic development depends largely on the development of scientific and technological capabilities, the growing workforce needs to become integrated into the attempts to develop these capabilities. Not only is it necessary to enroll them in effective programs of study to hone their skills in science and technology, but, as the Sukhavit and Yingluck cases show, a way needs to be found to integrate technologies, in this case the information and communication technologies, into the lifeworld of the village communities that form the backbone of the Thai economy and way of life. This can be accomplished when the goals, values and aspirations of the local communities are treated as top priorities when decisions regarding scientific and technological policies are taken. For example, a village may have perfected the traditional skills of producing rice wine through centuries of experience. Science and technology can certainly help develop them further through research and development. Computer and internet use become part of villagers'

life for the production and marketing of their produce. Instead of connecting just to a central server with little useful content, the villagers can instead connect to their peers in other villagers, sharing information and techniques of rice wine production, while discussing the market and other issues related to their world. I have also demonstrated how this peer-to-peer networking should be the aim of policies for effective computer use in the villages, since it will demonstrably strengthen the capabilities of the communities in many ways (Hongladarom, 2002a). This would not be possible if the overall aim of policy in science and technology remains attached to 'catching up' and imitating the path already taken by the industrial West.

Thus, there are shortcomings in both the Chavalit, Thaksin and Yingluck governments' polices toward narrowing the digital divide. At first sight, there might seem to be advantages to the policies purporting to provide free or low-cost computers and of selling internet connection time at only 1 baht per hour. However, the advantages are minimal. As mentioned before, selling computers at reduced cost can have some unintended outcomes, because it makes inexpensive computers available to those who are already computer owners and who are already well versed in their use. Something akin to a seedling has to be present before a person can appreciate how he can use a computer to his advantage. The challenge is to locate this vital ingredient and make it a reality for the majority of the population.

## Digital Divide and Culture

Before discussing what more is needed in order to solve the digital divide problem in Thailand, some philosophical reflections are in order. Firstly, the existing habits and tendencies play a large role in whether computers are adopted and used to their full potential. Thai school children visit internet cafés mostly for entertainment reason, which is perfectly legitimate for game-playing. What is happening, however, is that this is all too often the only reason for visiting an internet café, without going online. However, these students in future may learn to navigate the internet, since most of the popular online games are internet-based. This process may need to be fostered or stimulated, to prevent students becoming faceless cogs in the wheels run by a powerful few. This scenario does not bode well for the lofty goal of enhancing the creative, imaginative and cognitive capabilities of the people through information technology and network, which should be the real goal of attempts to bridge the digital divide.

This is where culture comes into the picture. The term 'culture' here is used in the anthropological and sociological sense of the sum total of a group of people's beliefs, habits and practices that equip them with symbolic understanding transferable chiefly through language. The sum totals of these beliefs and practices cannot be ignored when we raise the question of how information technology and its diffusion could be best utilized. The study conducted by Borgida et al. (2002) illustrates the significant role played by culture in how the digital divide problem is viewed and addressed in two rural communities in Minnesota (in the US Midwest). Their findings prove that separate

historical paths largely explain differences in the two communities' civic and political culture, which in turn can explain the contrasting approach in how each community tackled the digital divide problem. In the first community, the problem is regarded as a civic matter requiring the whole community's involvement for a solution, whereas the other community attached responsibility to the individual for resolving the matter (Borgida et al., 2002: 138). Thus, the 'community' is juxtaposed with the 'individual' for an issue that straddles an entire community.

Significant in the findings of Borgida et al. (2002) is how culture affects the way the digital divide is viewed and how it is solved. This corroborates the notion that the digital divide is located fully within the domain of culture. Not only is the question of how a community views the digital divide problem, or what their attitude is towards it, dependent on their culture, but rather the whole issue of the digital divide - the phenomenon itself and how it is going to be addressed - is also dependent on it.

A systematic study has yet to be conducted in Thailand on how Thai culture plays a role in the way that communities view and address the digital divide. From the findings of my informal survey on this issue, I conclude that what are normally understood as elements of Thai culture, are strongly visible in the way the problem is viewed and addressed in this context.

At first sight it may seem that the two policies of the Thai governments, outlined earlier, bear little relation to culture because of their emphasis on the provision of hardware to the masses. However, the decision, implementation, design of the policies and the thinking

behind it all, are clearly dependent on traits of Thai culture. To reiterate, the thinking behind the policies belies the government's view of itself as the 'father' responsible for taking care of his 'children'. Moreover, the government appears to view itself as the better informed of the two. This paternalistic lens is compounded by the Thai cultural trait that views the government as the entity capable of taking care of its population, ready to lend assistance when needed. This attitude is not unique to Thailand, however, since disparate governments around the world hold responsibility for the welfare of their citizens. What is distinctive about Thai culture, though, is the commonly-held perception that the majority of Thai citizens view themselves as defenseless, a notion compounded by the expectation that the government has the duty to provide for them. This is well documented in the printed literature as the 'patron-client' relationship. The patron gives the protection and the client repays in submission and loyalty (Robertson, 1996; Jumbala, 1973).

The patron-client relationship and the digital divide in Thailand are tied together by the twin threads of the government acting as a knowledgeable patron and in a position to initiate a policy, be it the 'Computer-for-School' or the 'Good-Wish' projects, intending to solve a problem perceived as such by the government, without any attempt to obtain input from the masses. Another relevant aspect of Thai culture is the attitude fostered by a system of education that totally separates the technical from the non-technical side of education, where the digital divide is a technical matter that can be solved only through technical means. There has been very little discussion on the socio-cultural aspects of the digital divide in the Thai context, and most

policies in this area originate from technicians such as engineers and computer scientists, a notable exception being the IT Policy Research Project (http://www.nitc.go.th/itpolicy.html), which is part of NECTEC and is headed by a sociologist. An outcome is that the policy orientation tends to be based on a narrow perspective, as discussed earlier, and which has not significantly reduced the digital divide. The policies originate from a certain cultural context, and when they are implemented in other cultural contexts, most visibly those of the Thai rural villages, they have limited effectiveness since they create strong cultural dissonances.

## What More is Needed?

The question remains: "What more is needed?" More specifically: "How should the ICTs be adapted and utilized in such a way that they fit in with the cultures of the local people, so that they can make use of them to their fullest potential?" The question presupposes that aligning technology to culture is necessary for its full potential to be realized. This is so because, since cultures are the sum total of beliefs and practices, the introduction of new technology introduces new practices into the existing cultural pattern of a locality. Hence, if the new set is not well integrated into the existing pattern, a dissonance may be created, and this in turn can prevent full use of the technology's potential. This is perhaps the reason why the 'Computer-for-School' project met with partial success. Computers constitute more than just components in plastic and silicon; they form part of a new set of practices that could create dissonances with the existing cultural pattern. Since there was no

attempt to integrate new computers into the accompanying beliefs and new patterns of practices for their optimum output, it is easy to see how the policy met with little success.

In my previous research on science in Thai culture (Hongladarom, 2002b), I contended that the way to integrate modern science into Thai culture was to develop a real partnership between modern science and the grassroots of Thai localities. Merely importing scientific knowledge from abroad and trying to impose it on the Thai culture is doomed to fail, since in many cases science was the partner of large, multinational business interests, which do not always benefit the local communities. The real partnership, in these instances, means that modern science should provide real and lasting benefits to the grassroots, helping them to develop consistently with their own needs and priorities, rather than those of central government or multinationals. In this sense, the digital divide could be narrowed through plans to let computers and the network become real partners with the local communities. What applies to science in Thai culture also applies to technology, since we are focusing not on the essential characteristics (if there are any) of the two, but on the fact that both are the product of beliefs and practice patterns that form a culture, and which would create dissonances if transplanted in toto into a culture where they did not first take root.

It is not possible, within this paper, to outline in detail how to make computers become real partners. For this to become possible, the villagers need to possess the relevant knowledge and skills but, most importantly, knowledge and skills must become concrete manifestations into products and services that lead to economic development of their communities as well as satisfaction of their other

goals, values and priorities. In the case of rice wine production, as mentioned earlier, this includes the knowledge and skills required in producing the best tasting wine possible, the market savvy for finding a niche for their product in the domestic or international market, and the networking that is made possible through internet technology that enables them to connect with their peers in order to share news and information. The villagers already possess numerous skills related to their productive life, thus it is not beyond the bounds of the imagination to believe that computer literacy will become one of those skills if they realize that it is necessary for them and is relevant to what they do best.

Hence, it is here that the digital divide problem has to be addressed, since information and communication technologies are among the most effective tools that can spread ideas and knowledge to the whole population, thus increasing effectiveness of education. The networking is not possible without the computer network, the infrastructure that supports it, and, no less importantly, the knowledge and skills required to operate them efficiently. Computers and ICTs should be integrated into the lives of the villagers themselves, in the same way as the use of older technologies like the plowshare or tractor have become integral to the lives of farmers. This is clearly a difficult task, but we can learn from history to discover how tractors have become part of Thai farmers' lives and search for the pattern. Since the tractors are undoubtedly linked, it can be demonstrated to have relevance to the farmers' work, as do computers and the network. If it can be demonstrated that operating the computer is no less difficult that operating the tractor, then a good head start can be anticipated.

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