



# Thailand's Innovative Strategy on ICT for Nation-Building

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## Abstract

Nation-building comprises activities related to creating good, smart and courageous people, building a system that supports the nation's people to live together in an orderly way and building a context that facilitates the nation's people and the nation's system to undertake its duties to the fullest capacity, under the agreed ideology. The process of nation-building is complex and there are many components that contribute to the success of nation-building. As the world is developing towards the knowledge society in the present time, ICT is one tool that will help make the process of nation-building, easier, faster and more successful. Therefore, this article aims to analyze how ICT is important to nation-building covering all aspects of economics, politics and society and involving, people, systems and contexts of Thai society, to explain the present ICT situation in Thailand; and to recommend Thailand's innovative strategy on ICT for nation-building.

**Index Terms:** ICT, Nation-Building, Strategy, Thailand

## I. INTRODUCTION

One economic model that is currently trending globally with broad impact on economies and societies is the digital economy. This is the economy that is based on information, information technology, and internet, through data transmitted via fiber-optic cable and cable TV connected with various electronic devices. These new economic activities are all based on "digital infrastructure", that is information technology, telecommunications and video broadcasting. Together with technological integration ("convergence"), these three areas constitute an innovation in digital development for the economy and society [1]. The new economic activities, include communication, production, consumption, usability, distribution, electronic commerce, electronic transactions, transportation logistics, education, public health, agriculture, industry, investment, taxation, data management and content, or any other economic activity that involves digital or electronic processes.

The concept of "digital economy" is not new to the world. It started in 1995 from the book, *The Digital Economy* by Don Tapscott [2], who said that the internet will transform our lives, including business. Kriengsak Chareonwongsak made a similar forecast concerning the changes in the world, but went further than Don Tapscott to explain that the development of global society can be categorized into seven waves (Seven Waves Theory of Civilization) [3]. These are as follows:

Wave number 0: Nomadic Society, forest-based economy, tribal leader politics;

Wave number 1: Agricultural Society, rural agriculture-based economy, monarchy;

Wave number 2: Industrial Society, urban industrial economy, democratic political system;

Wave number 3: Information Society, cyber society, media and information-based economy, media-based democratic political system;


Wave number 4: Knowledge Society, knowledge-based

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economy, policy-based political system;

Wave number 5: Wisdom Society, wisdom-based economy, wisdom-based political system;

Wave number 6: Virtue, or Civilized, Society (“Araya Society”), virtuous or civilized society and economy, virtue-based or civilized political system. This is a society with a holistic and balanced form of prosperity that encompasses all areas of life, including material wealth, livelihood, emotional health and moral standing.

Tapscott [2] stopped his description at the 4th wave - the digital economy is an overlap between the 3rd and 4th wave. “The Internet” provides access to “information” and enables the use knowledge to create new business models, but according to the analysis of Chareonwongsak [4], world society will continue to develop towards the 5th wave, the “wisdom society” and then finally into the 6th wave, the “virtue or civilized society”.

At present the world is developing towards the 4th wave, or “knowledge society”, but Thailand is still in transition between wave number 0, 1, 2 and 3. If Thailand wants to move forward and benefit from riding the wave and become a high income country, the country must move rapidly into the 4th wave of social knowledge. The important conclusion is that “whoever is the first to ride the wave will emerge as the victor; the country that continues to be victorious over the long term will become a superpower”.

Acknowledging the importance of these issues, this article explains the information and communication technology (ICT) strategy for nation-building, and the development of Thailand’s ICT so that the country advances rapidly towards becoming a “knowledge society”. This article comprises three main parts: ICT and nation-building, the present ICT situation in Thailand, and an innovative strategy on ICT for nation-building.

## II. ICT AND NATION-BUILDING

### A. Definition of Nation-Building

Nation-building is different from state building; the two are totally different things. In order to be complete, a state needs four components: territory, population, sovereignty, and government. State building concerns the enabling of the state to function properly, while nation-building focuses on building the identity of the people in the nation, creating a sense of unity, and an identity based on an ideology that they trust. For example, Russia built its national identity on the basis of communist ideology.

The existing definition of nation-building is still incomplete and unclear, mostly focusing on people or the identity of the nation’s people, and, in some cases, the systems in national institutions. But enabling the nation to achieve the

desired goals depends on people, the system and the context. The definition of “nation-building” used by the Nation-Building Institute [4] is as follows.

#### **1) Nation-Building Comprises Activities Related to**

(a) Creating good, smart and courageous people, who have a shared identity, ideology and goals.

(b) Building a system that supports the nation’s people to live together in an orderly way, and helps the state to do its duty in effectively caring for its people. It is a system that allows good people to climb up to attain positions of power.

(c) Building a context that facilitates the nation’s people and the nation’s system to undertake its duties to the fullest capacity, under the agreed ideology.

In nation-building, these three components of every country are the core, and must be carried out continuously and consistently with the changing world context.

#### **2) Nation-Building Does Not Imply That in the Past There Was No Nation**

But it is a process that every country has to undertake continuously. Thus, building the nation’s people does not mean that in the past there was no-one in the state, but it is a process that continues from state building, with the goal of enabling the country to flourish sustainably in all aspects. Even rich countries need to undertake nation-building continuously towards achievement of the identity they desire according to their agreed ideology. Some countries may have statehood without development of the nation. It’s possible to have “states without nations”, for example Melanesian countries such as Papua New Guinea, Solomon Islands, and Vanuatu [5]. For this reason, it’s not possible to build the state without building the nation. Both need to be done because they are different concepts.

#### **3) Nation-Building Is More Than National Development**

The concept of the reformation that propels the nation towards an Araya Society as “Arayalization” (Thai: Arayapivat) [6]. The Arayalization process is divided into four stages, consisting of (1) starting by fixing existing problems, that is transforming a negative condition to a state of normalcy (– to 0); (2) improving a neutral condition to be positive or building up something from zero that is necessary for the good of the society (0 to +); (3) developing further what is already in a positive condition to have a multiplied result (+ to x); and (4) enhancing something that already has a multiplied result to lead to exponential growth (x to x<sup>n</sup>). Nation-building covers all these four stages, not only just the development stage.

### B. ICT and Nation-Building

There are many factors that can contribute to the success

of nation-building. ICT is one of tools that can play a role in successful nation-building. When ICT is developed, it can improve the country's economy, society and politics.

### 1) Economic

ICT development promotes economic growth. Research shows that high investment in ICT, high ICT use, high quality ICT and high access to ICT result in high economic growth [7]. The reasons why ICT causes economic growth are:

(a) Digital technology increases the productivity of labor and organizations because of faster access to information, reduction in travel and possibilities for remote work;

(b) Digital technology enables manufacturers to access global markets and to expand markets. Using ICT in business, such as in e-commerce and mobile applications, is a good sales method, expanding the market from the domestic to the global level, enabling products to reach the world market;

(c) Digital technology helps add value through innovation and new business models. For example Uber, the largest taxi firm in the world, does not own a single vehicle; and Facebook, the world's most popular media owner, creates no content. Alibaba, the most valuable retail company, has no stock in its warehouse, and Airbnb, the world's largest accommodation provider, no real estate of its own [8]. But it's a popular area of commerce, and most of the world's billionaires are in the ICT business.

(d) Digital technology enhances business competitiveness in many ways, such as business start-ups, who have an idea but don't have funding, can use crowd funding as a way to raise additional funds through the internet. It helps to reduce the cost of business because manufacturers can reach consumers directly without going through middlemen. Manufacturers are also more readily able to respond to the needs of consumers because present day consumers want companies to provide more specific products/services and faster delivery.

### 2) Society

ICT contributes to the development of improved public services, such as:

**Education:** School students can access learning information more easily, and of a broader range. People can gain increased access to education through the online learning system.

**ICT in Health Services:** has made access to medical information more convenient. Doctors can provide more efficient services and diagnose diseases remotely for patients living in rural and remote areas, etc.

**Public Services:** The time needed to receive services from government agencies is greatly reduced because they can locate information and carry out procedures online.

Results of empirical research also show that ICT helps society by increasing mutual trust. There is evidence that

internet users become more involved in community activities, and that existing participants in community activities become more engaged, including those who join online debates, and there is a tendency towards increased social trust [9]. Their community involvement is greater than that of people who do not participate in online debates. The reason is that social networks create mutual trust among their members.

### 3) Politics

ICT helps facilitate political participation. People can participate in online debates and are free to express their true opinions. ICT also helps create a new direct democracy through citizens' participation in decision-making through information technology. It encourages people to participate in more democratic activities, such as e-voting, online public hearings and online referendums. This is because the internet is a low cost channel of communication in comparison to other forms of media.

In addition, it leads to increased government transparency, because it makes investigation easier and people can access official information easier and faster. In sum, ICT development is extremely beneficial to nation-building in terms of the economy, society and politics. So it's necessary that all countries and Thailand in particular, develop ICT infrastructure.

## III. CURRENT SITUATION OF ICT IN THAILAND

Even though ICT development is such an important factor in nation-building, when we appraise the ICT situation in Thailand, it was found that there are still many things that need to be developed. These include the following.

### A. The Political and Regulatory Environment is Not Supportive of ICT Development

The World Economic Forum's Networked Readiness Index for Thailand has decreased continuously; protection of intellectual property is a major problem; software piracy is also a serious issue; and ICT laws are still not sufficiently well-developed.

Many tech startups that have a real business model and are successful abroad are illegal in Thailand. For example, Airbnb, an accommodation center that matches condos, houses etc. with people who are looking for accommodation contravenes Thailand's Hotel Act, as it hires out premises without payment of tax, and without concern for the safety of additional residents. GrabBike uses privately owned motorcycles (those with black license plates) to provide hire services for customers. The Department of Land Transportation has advised that GrabBike is an illegal service, however

it is still operating and is becoming increasingly popular.

### **B. The Quality of Digital Infrastructure is Only “Average” But the Trend is Towards Increased Development**

Thailand’s phone signal coverage reaches 100% of the population and Internet speed is “good” and the speed is 36.54 Mb/s. Based on Speedtest Global Index as of October 2017, Thailand’s internet speed is the second fastest in ASEAN, after Singapore.

### **C. Thais’ ICT Use is Less Than Many ASEAN Countries**

Internet usage in Thailand is about 39% of the population, which is less than Singapore (79%), Brunei (75%), and Malaysia (71%). Almost all Thailand’s Internet use is for entertainment purposes [10]. This low usage rate makes Thailand’s economic growth rate less than its potential.

### **D. The Use of ICT in the Public Sector is Lower Than the Private Sector and Personal Use**

This is partly a result of the fact that in the past ICT was regarded as unimportant in the government’s future vision. Now, however, there is more awareness as a result of the trend towards the digital economy and startups in Thailand. There are not many government public services online as government support for ICT development has been unsuccessful, with little progress made in this area.

### **E. Production of ICT Personnel Has Not Matched Demand**

Thailand faces a shortage of ICT professionals [11]. This is due to the fact that educational institutions are not producing graduates whose qualifications meet market demand and they lack the capacity to undertake actual work. On graduation they are unable to work, and they can’t write programs or do systems administration. There is also the problem of the brain drain due to the global IT labor shortage, so that talented people move elsewhere where the remuneration is higher.

## **IV. INNOVATIVE STRATEGY ON ICT FOR NATION-BUILDING**

In view of the importance of ICT development for nation-building and the current ICT situation in Thailand, an ICT strategy for nation-building needs to be formulated, as follows.

## **A. Update Rules and Regulations to Support the Application of ICT Technology**

### **1) Legislation Enacted to Facilitate the New Digital Business Model**

Government agencies have many plans to revise and develop laws related to the promotion of the digital economy. But the digital development master plan does not mention approaches to solve the problem of digital businesses that currently lie outside the law, for example the cases of GrabBike, and Airbnb mentioned above. In the future, there will be many more businesses or startups of this kind. These should be supported because they use existing resources to much greater advantage. For example, mobilizing unused cars, which are currently free, in order to carry passengers, or renting out unoccupied rooms or apartments. This will lead to increased competition; the original entrepreneurs must develop the services they offer so that they are more competitive. This will make them think more and lead to new business models, which will benefit consumers and the economy as a whole. However, these businesses should be taxed properly and controlled for the safety of users. Accordingly, official rules and regulations need to be developed to support the new business models.

One approach is to issue rules and regulations that support enterprises on a case by case basis. In the case of taxis a ministerial regulation could be issued that would regulate the type of taxis so that it accommodates the variety of forms, as well as fares, service standards and safety in order to make it a premium service, as the Singapore government has done [12].

### **2) Resolve the Issue of Violation of Intellectual Property Rights**

There are several approaches that can be used to address the problem of violation of intellectual property rights.

**(a) Build international cooperation:** Such as cooperation with ASEAN, to support innovations that are of benefit to humanity. The search for and creation of innovations can lead to external positive results (“positive externality”). If simply left to market forces, there may not be sufficient thought given to these, so for this reason governments should jointly support innovations that are of benefit to humanity. Examples include beneficial software, grants for the encouragement of research, reduction of sales taxes, and sales price ceilings to limit software prices and enable people to have increased access.

**(b) Create innovative public products:** ASEAN country governments may jointly contribute to the establishment of a research fund that would benefit all countries, or allocate budgets to the private sector, university or social enterprises that have the potential to undertake research. The resulting innovations would be designated as public products for the use of everyone.

*(c) Establish a requirement for inventors to pay an initial fee* that would cover the cost of protection of property rights. Government budgets are insufficient to meet the high cost of policing violations of intellectual property rights in developing countries. For this reason, a channel needs to be established whereby the owners of the intellectual property can contribute to the cost of monitoring for violations. For example, payment of a fee by the owner of the intellectual property rights into a special fund that will provide a budget for control activities.

## **B. Development of ICT Infrastructure so that It Has High Quality, High Speed, Stability, Full Coverage and is Safe**

### **1) Set a Target of Connecting All Schools and Homes with High-Speed Internet**

The government already has a plan to install high-speed internet in every sub-district. Rather than using government budget alone, the government should encourage the private sector to do corporate social responsibility (CSR), creating shared value (CSV), and corporate nation-building (CNB) with educational institutions, to ensure that all schools have access to high-speed internet and there is ICT equipment for teaching and learning. This will help improve the quality of school-based education, especially in remote areas.

Also, advantage should be taken of the Electricity Generating Authority of Thailand's high-voltage powerline infrastructure to create a national fiber optic network, which will help extend internet service coverage to the whole country at reduced costs.

### **2) Promote the Use of Secure Technology**

Such as encryption technology enabled servers, for internet transactions to build confidence in online transactions among business entrepreneurs. The government should educate entrepreneurs to create a central platform or template that they can apply. Tax breaks could be given to entrepreneurs who cooperate business registration, or it could be made a condition of business registration.

### **3) Accelerate the Liberalization of Telecommunications in Order to Reduce the Price of Services**

ICT industry competition in Thailand is moderately low; Thailand is ranked 91/143 based on the Internet and Telephony Sector Competition Index of the Network Readiness Index. Even though, under the ASEAN Framework Agreement on Services (AFAS), Thailand has committed to opening the IT business sector to allow up to 70% foreign shareholding before the year 2015, at present there remains the legal obstacle of the Foreign Businesses Act 1999, which limits foreign shareholdings to only 49%. It's time for Thailand to revise its policies, regulations and standards for com-

munication services so that these are consistent with the AFAS framework. This will reassure foreign investors and attract them to invest in Thailand. Finally, the general public and business sector will benefit from appropriate service charges and quality services through the number and variety of service providers, reduction in monopolies, and competition between telecommunications providers.

## **C. Promote ICT Use with Understanding**

The population should use ICT in ways that are most beneficial for them, not for entertainment only.

### **1) The Government Should Encourage the General Public to Use ICT by Producing a Popular Manual on the Use of ICT**

This would provide an introduction to use of social media, doing online business, including purchase of products online, and doing financial transactions. This will make people understand what to do and what to watch out for, by distribution through offices, districts, or various government centers.

### **2) Merge ICT Knowledge into the Curricula of Educational Institutions**

So that it becomes a natural part of children's school-based learning from an early age.

## **D. Increase ICT Use in the Public Sector**

### **1) Promote the Procurement of Advanced Technology Products**

According to the Networked Readiness Index, technological procurement in Thailand's government is rated "very low", at the rank of 113 among 143 countries. The state should have an advanced technology procurement policy, from both domestic and foreign entrepreneurs, to raise the level of technology to an advanced level. Domestic entrepreneurs should be encouraged to develop advanced technology, and take the lead in technology transfer, dissemination of information, and technology diffusion in Thai society.

### **2) Accelerate Provision of E-Government Services**

The Government should first develop the e-government system in order to motivate the public to increase access and utilization of online services. The e-government system will improve the efficiency of various public services, and improve their image as well as customer satisfaction. The system will help increase transparency and build more confidence regarding the risk of corruption. In addition, people will become more familiar with the use of online services.

### **3) Reform of Government ICT Agencies**

Some government ICT agencies have overlapping func-

tions. For example the Ministry of ICT has some responsibilities that are very close, or overlap, with those of the National Broadcasting and Telecommunications Commission (NBTC), the independent organization that oversees Internet and telecommunications. Some government agencies lack clarity in regard to their roles and responsibilities. For example, the Office of Electronic Government (EGA) has no direct authority to oversee e-services provided by other government agencies. The result is that government-provided e-services lack consistency in their direction, and some agencies have internal problems that restrict their operation, for example the Software Industry Promotion Agency (SIPA).

There are also many other agencies involved in the reform of the digital economy. Therefore, it is necessary to completely reorganize the structure to make it consistent. Alternatively, a new agency could be established under the ICT Ministry, which in 2009 was renamed as the Ministry of Digital Economy and Society. In accordance with this restructuring, not only the name should have been changed, but also the system as a whole, with a review undertaken of every department, in order that a genuine change takes place.

#### **E. Formulate an ICT Workforce Development Plan**

Thailand lacks ICT workers in both quality and quantity, so for this reason the government should develop the ICT workforce, as follows.

##### **1) Create a Workforce Plan Covering the System as a Whole**

The problem of labor shortage doesn't affect only the ICT industry, but also occurs in all industries, including logistics, tourism, etc. The Government should undertake a survey and create a comprehensive labor database including the current situation as well as future needs. This would provide a picture of labor demand and supply in all industries covering the country as a whole, enable decisions to be made regarding the direction needed for promotion and allocation of the country's ICT workforce.

##### **2) Use the "Jump Strategy"**

Provide scholarships for continuing education in specialized ICT areas, for entry into the best universities or with the best teachers, in order to provide access to cutting-edge knowledge and developments, and enable a leap forward in ICT skills.

##### **3) Reverse the Brain Drain**

Compile a global database of Thai ICT specialists and develop an incentive system to attract foreign experts to work in Thailand.

#### **4) Establish Specialized ICT Universities**

Build ICT personnel through cooperation with the private sector in designing a curriculum, educational methodology, and results measurement, in order to strengthen the knowledge base, experts, research and innovation in ICT.

## **V. CONCLUSION**

There are many components that contribute to the success of nation-building. ICT is one tool that will help make the process of nation-building, easier, faster and more successful. No matter how excellent and effective ICT tools are, if there is a lack of people to use them, or the users lack the knowledge, skills, or ideologies to use them effectively for nation-building, then the process of nation-building will be difficult. Every one of us should contribute to the development of ICT knowledge, establishing ICT as an effective tool, and become an ICT user with an ideology, who can use this powerful tool for the common good and help achieve success in building our nation.

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