

Challenges of Developing Innovation Districts in Thailand

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Abstract

The “New Economy” is a result of a transformation from production-based economy to service- and knowledge-based economy. Recently, economic drivers of many countries have shifted from manufacturing industries to creative and innovative industries, which rely heavily on the human’s intellect and creativity. Undoubtedly, one can observe that places with concentrations of talents and innovative minds become more prosperous than places that do not. This paradigm shift of the new economy has given rise to the role of urban development in driving the economy of the nation. An “innovation district” is an urban area that actively and intensively promotes creations and uses of innovation. Following the success of the Silicon Valley in San Francisco, the concept of innovation district emerges as a cluster that harnesses and cultivates talents, nurtures business spin-offs, and fosters labor mobility of innovative businesses.

Thailand has long been a production-based economy, with its industrial hubs in advance manufacturing, automotive, and electronics industries, once accounted for twenty percent of the country’s GDP. The country aims to shift towards more knowledge-based economy. In response to this shift, the concept of innovation district development is promoted to stimulate cluster developments in urban areas in Thailand, in particular the development of innovation ecosystems, namely, economic, networking, and physical assets.

This study focuses on challenges in developing innovation districts in Thailand. These challenges include institutional, social, and economic aspects. The study discusses the current innovation ecosystems of initiative innovation districts and identifies challenges, which include institutional, social, and economic aspects. The analysis suggests that raising public awareness and establishing collaborations among the quadruple helix of innovation play a crucial role the success of innovation district development.

Keywords: Innovation district, Innovation ecosystems, Thailand

JEL classifications: O18, O31

Introduction

The “New Economy” is defined as the result of a transformation from production-based economy to service- and knowledge-based economy. In the past few decades, global economic landscape has changed due to increasing international trade (Moretti, 2011); products are made where the costs are cheap and shipped to everywhere around the globe. Manufacturing jobs have moved from one country to another. As such, economic drivers of many countries have shifted from manufacturing industries to creative and innovative industries, which rely heavily on the human’s intellect and creativity. Undoubtedly, one can observe that places with concentrations of talents and innovative minds become more prosperous than places that do not. This paradigm shift of the new economy—from mass-production to knowledge-production—has given rise to the role of urban development in driving the economy of the nation. The rise of spontaneous ecosystems in inner-city areas, together with social changes that make living downtown a transformative experience, make the concept of “innovation district” become widely recognized (Morrison, 2015).

An “innovation district” is an urban area that actively and intensively promotes creations and uses of innovation. Following the success of the Silicon Valley in San Francisco, the concept of innovation district emerges as a cluster that harnesses and cultivates talents, nurtures business spin-offs, and fosters labor mobility of innovative businesses. The concept follows the “quadruple helix” model (Figure 1) where government, industry, academia, and citizens collaborate “to co-create the future and drive structural changes far beyond the scope of what any one organization or person could do alone” (Curley & Salmelin, 2013). As Moretti (2012) puts it, “new ideas are rarely born in a vacuum...New ideas arise in mysterious and unpredictable ways from free and unstructured interactions.” In other words, knowledge spillovers are created through interactions of people. These interactions and collaborations essentially take place in the urban areas. Thus, the concept of innovation district development is fundamentally the concept of urban development.

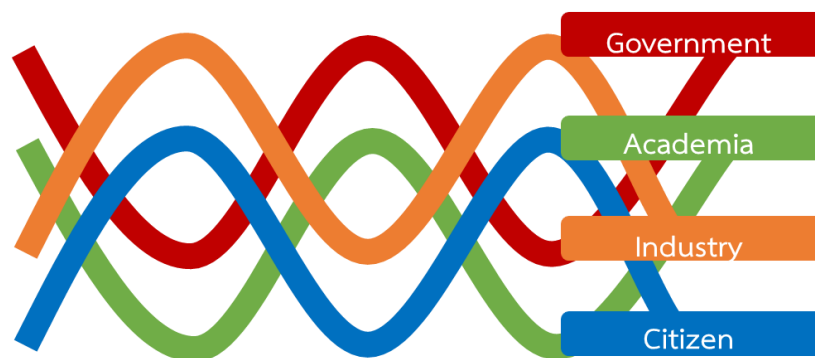


Figure 1: Quadruple Helix
Adapted from Curley (2013)

This concept of innovation district development originates from the West (as can be seen in Silicon Valley in the US and 22@ Barcelona in Spain) and thus may be more relevant to developed economies than developing economies. It remains unclear, however, to what extent this concept of innovation district development could be applied to cities in developing countries and contributable to successful urban and economic development of such countries. This analysis aims to identify challenges in developing innovation districts in developing countries, using Thailand as a case study, since recent economic policies of the nation become increasingly innovation-oriented to overcome middle income trap.

New Economy in Thailand

Located at the center of the Greater Mekong Subregion, Thailand has high potentials for economic development with its geographical advantages of being the center of Indochina and ASEAN region. The country, once called the one of the miracles of Asia, had very high growth during the 1960s to 1990s. However, the economy of Thailand was hit hard during 1997 Asian financial crisis and again during 2008 financial crisis. Together with political instability since 2006, Thailand has faced low growth and has not recovered from the economic crises. Thailand Development Research Institute even mentions that “Thailand will overcome middle income trap in the next 20 years” (Jitsuchon, 2012).

As shown in Figure 2, Thai economy has relied primarily on manufacturing and service sectors. Until recently, service sectors grow and contribute large proportion to the country’s GDP. However, slow growth in recent decades suggested that Thailand is falling into a middle-income trap, a situation in which a developing country remains at the same level of income without prospect of being a developed, advanced country (Jitsuchon, 2012). Proactive policies on innovation and human capital development is considered as the key for Thailand to escape the middle-income trap and to gain sustainable and high economic growth (Jitsuchon, 2012; Tran, 2013). According to the Royal Thai Government, the key economic priorities of Thailand in 2016 include (1) infrastructure, (2) special economic zones, (3) international headquarters and international trading centers, (4) digital economy, (5) investment incentives, (6) tourism, (7) energy, and (8) water management. The government aims to increase the country competitiveness and economic growth by nurturing high-value added industries and focusing on science, technology, and innovation (Royal Thai Government, 2016). The policy called “Thailand 4.0” and soon after Eastern Economic Corridor (EEC) has been announced and promoted.

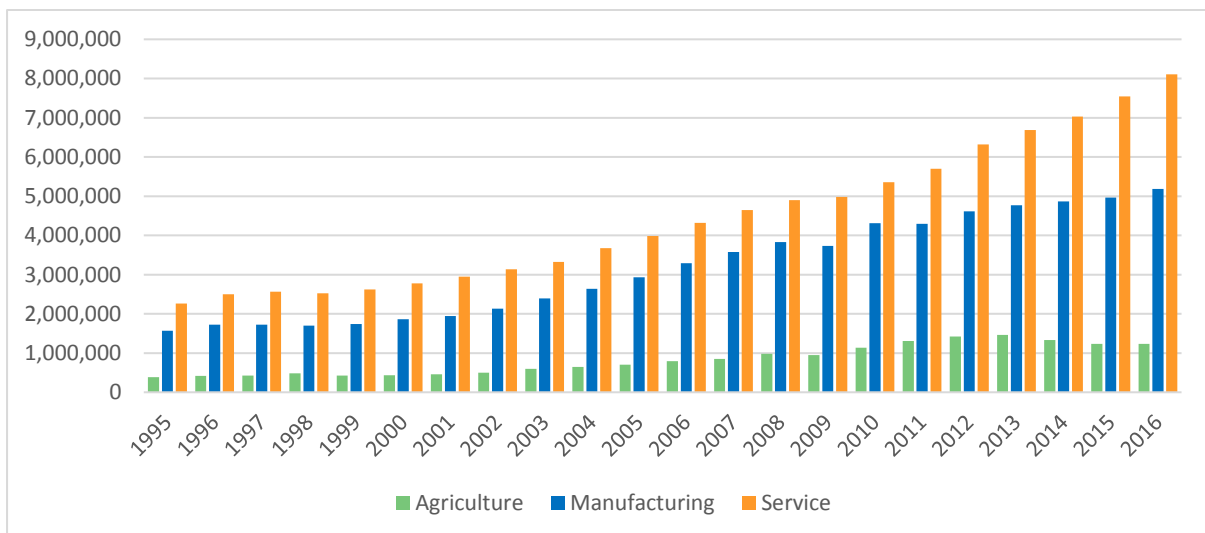


Figure 2: Thailand GDP Component by Economic Sector, 1995-2016
 Source: Office of the National Economic and Social Development Board

Thailand recent policies on economic development

Recent Thailand economic development policy makers have focused on advanced development of industry, city, and people. Following the concept of “Industry 4.0,” “Thailand 4.0” policy has called for priorities for creativity and innovation as a basis for economic development of the nation, a transformation from agricultural based economy (Thailand 1.0) to light industry (Thailand 2.0) and heavy industry (Thailand 3.0) economies. It promotes the development of five s-curve, namely (1) next-generation automotive, (2) smart electronics, (3) medical & wellness tourism, (4) agriculture & biotechnology, and (5) food for the future, and another five new s-curve industries: (1) robotics, (2) aviation & logistics, (3) biofuel & biochemicals, (4) medical hub, and (5) digital. Figure 3 illustrates a conceptual framework of the policy.

Following the “Thailand 4.0” policy, in 2016, the Thai government announced a project called “Eastern Economic Corridor (EEC)” to simulate economic development of the country by focusing on high value-added industries such as robotics, aviation, and bio chemical. The EEC project is driven through investment incentives for private sectors and investment in land, rail, water, and air transportation infrastructure by the government. Unlike the “Thailand 4.0” policy, the EEC project is area-based; it covers three provinces in the eastern region of Thailand, namely, Chonburi, Rayong, and Chachoengsao, where industrial hubs, agricultural lands, and beautiful beaches are located. High speed railway is planned to connect urban areas. In this regard, urban development is one of the important components of current Thailand’s economic development policies.

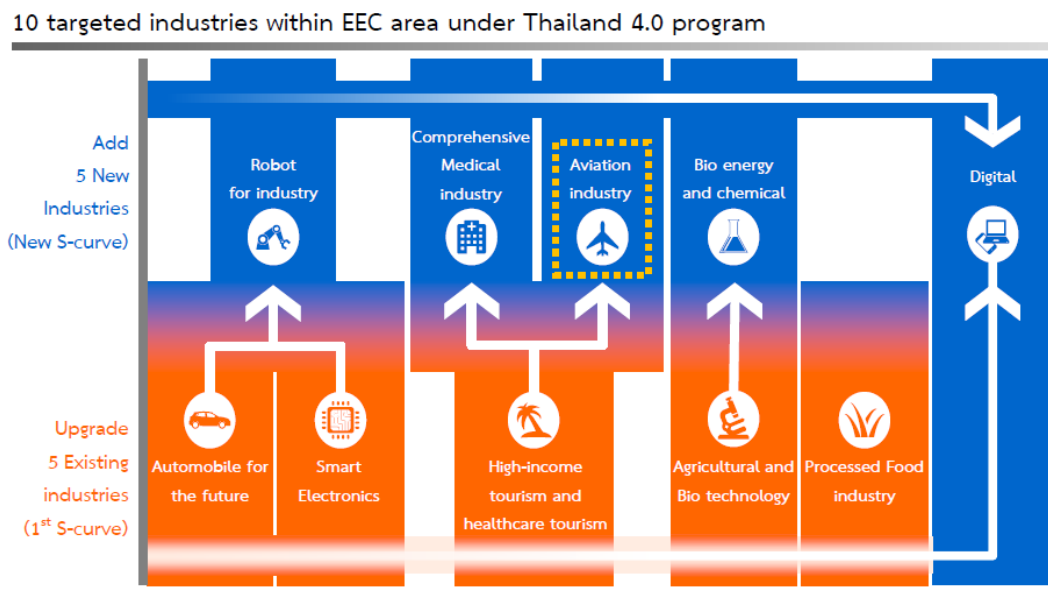


Figure 3: Thailand 4.0 Policy Focus
Source: The Board of Investment of Thailand

Role of Urban Development in Economic Development

Previous eminent works have point out that urban development will play an important role in economic development as a place that attracts and harnesses talents (Glaeser, 2011; Florida, 2008). As the world becomes more urbanized, a country’s prosperity increasingly depends on well-functioning, vibrant, and sustainable urban development. In Thailand, policies on urban development at the national level is not new, but a policy that promote creativities and innovations in a form of urban development is quite different from previous policy directions. Such a policy is called “innovation

district” development, initiated by the National Innovation Agency (NIA), a state-owned enterprise with its role to promote, cultivate, and support the making and using of innovation in Thailand.

An innovation district policy embraces the recent trend in innovation policies “to nurture living, breathing communities rather than sterile compounds of research silos” (Katz & Wagner, 2014). As such, innovation districts are defined as “geographic areas where leading-edge anchor institutions and companies cluster and connect with start-ups, business incubators, and accelerators” (Katz & Wagner, 2014). Strategies for innovation district development includes providing incentives and tax breaks to attract companies and improving local amenities and service to attract talent workers. According to Katz & Wagner (2014), a successful development of innovation districts relies on strong and grounded foundation of the so-called innovation ecosystem.

Innovation Ecosystem

Katz & Wagner (2014) define an innovation ecosystem as a “synergistic relationship between people, firms, and place that facilitates idea generation and accelerate commercialization.” The innovation ecosystem consists of three components: economic, physical, and networking assets as shown in Figure 4. Economic assets are firms, institutions, and organizations that support innovation-rich environment. Physical assets are the public and privately-owned built environment that is designed and organized to stimulate collaboration. Networking assets are the relationships between stakeholders such as individuals, firms, and institutions (i.e., the quadruple helix) to collaboratively generate new ideas.

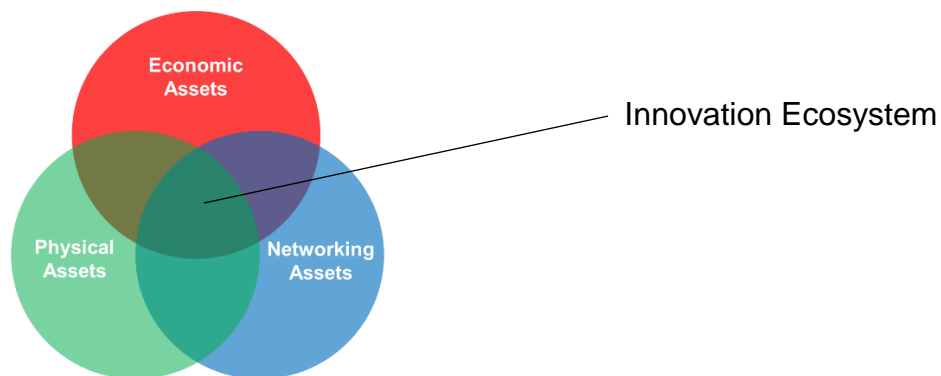


Figure 4: Innovation Ecosystem
Source: Katz & Wagner, 2014

Innovation District Development in Thailand

NIA initiates the development of ten innovation districts, six of which in Bangkok and the others in the EEC, in the first phase of the project. Other innovation districts throughout the country are planned in the future phrase (see Figure 5). In the first phase, the studies are commissioned by the NIA to universities in the district. Objectives of these studies are to identify key stakeholders in various groups (see Figure 6) and to develop district development plans in terms of innovation ecosystem as well as identify challenges in developing innovation districts.



Figure 5: Innovation District Development by the NIA

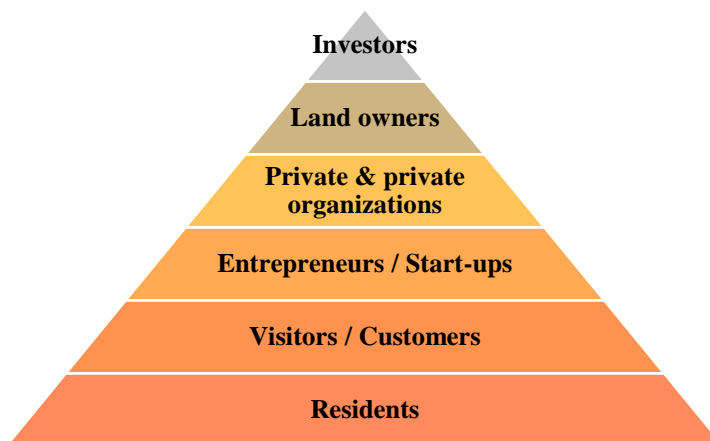


Figure 6: Groups of Stakeholder

Challenges of Developing Innovation Districts in Thailand

Previous works have suggest that human capital is identified as the most important factors in developing innovation ecosystem at the national level (Hansasooksin & Tontisirin, 2018). Challenges in developing innovation districts in Thailand include:

- **Strong economic assets.** Many districts house many affluent and unique industries.
- **Weak networking assets among government agencies as well as among the quadruple helix.** There are many government agencies that have their roles in promoting making and using innovation. In many cases, policies on innovation of these agencies are overlapping. As shown in Figure 7, there are four government agencies relevant to innovation, including:
 1. National Science Technology and Innovation Policy Office (STI),
 2. National Science and Technology Development Agency (NSTDA),
 3. National Innovation Agency (NIA), and
 4. Digital Economy Promotion Agency (DEPA).



Figure 7: Major government institutions related to innovation policy in Thailand

- **Inefficient urban planning make it difficult to develop physical assets in the district.** Urban Planning Act in Thailand is considered ineffective in a sense that a specific plan has never been implemented.

With this regard, raising public awareness and establishing collaborations among the quadruple helix of innovation play a crucial role the success of innovation district development in Thailand.

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