

Conceptual Framework and Taxonomy of Innovation: A Case Study of Malaysia and Thailand Public Sector

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Abstract

This paper has two purposes. First, it aims to critically review the conceptual framework of innovation. Scholars view the term innovation with different meanings and this paper discusses several significant concepts of innovation. In doing so, three major taxonomies of innovation will be given focus: product and service, service delivery, and organization innovation. Second, this paper discusses the significance and best practice of innovation taxonomy in both private and public sectors. Two case studies are reviewed to illustrate innovation initiatives in the public sector which have taken place in Malaysia and Thailand.

Keywords: conceptual framework of innovation, innovation taxonomy, National Productivity Centre, local government of Thailand

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กรอบแนวคิดและการแบ่งประเภทนวัตกรรม: กรณีศึกษาองค์กรภาครัฐของประเทศมาเลเซียและประเทศไทย

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บทคัดย่อ

บทความฉบับนี้มีวัตถุประสงค์หลัก 2 ประการ กล่าวคือ ประการแรกมุ่งพบทวนกรอบแนวคิดนวัตกรรม ซึ่งคำว่า “นวัตกรรม” มีความหมายที่แตกต่างกันตามการนิยามของนักวิชาการ รวมถึงบทความฉบับนี้มุ่งวิเคราะห์ความสำคัญที่หลากหลาย ของแนวคิดนวัตกรรม โดยจุดเน้นของ การวิเคราะห์ในครั้งนี้คือนวัตกรรมสามประเภทที่ประกอบด้วย นวัตกรรมผลิตภัณฑ์และการบริการ นวัตกรรมการให้บริการ และนวัตกรรมองค์กร ส่วนประการที่สองมุ่งวิเคราะห์ความสำคัญและลักษณะการบริหารงานที่เป็นเลิศตามประเภทของนวัตกรรมทั้งภาคเอกชนและภาครัฐ โดยนำเสนอผ่านกรณีศึกษาการสร้างนวัตกรรมในภาครัฐของประเทศมาเลเซียและประเทศไทย

คำสำคัญ: กรอบแนวคิดนวัตกรรม ประเภทนวัตกรรม ศูนย์ผลิตภาพแห่งชาติ องค์กรปกครองส่วนท้องถิ่นไทย

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Introduction

Public sector innovation is an influential mechanism and important driver for organizational improvement and stimulation (Vigoda-Gadot, Shoham, Schwabsky & Ruvio, 2008). Patel (2006) asserted that today many public sector institutions and systems view innovation as helpful measures to raise total innovation in organization.

Innovation debate comes with many concerns. Behn (1997) brings out key issues with innovation--what is the motive for innovation, who will be accountable to whom, how much analysis should be done, what kind of organizational structure is required, and how success is to be evaluated. These dilemmas are more puzzling for local governments, which are known for confined authority and resources as compared to central government (Hunmin, 2006).

In the public sector both central and local government are encouraged to increase their performances. As Hampton (1987) explained, their purpose is to provide direct public services. Brooke (1989) stated that central and local government is expected to transfer from being a direct provider of services to stimulating, facilitating, enabling and monitoring public performance. Particularly, the local government is not only limited in the pattern of community service, its authority must be extended to include the economic, cultural, and health welfare of people in its community (Wilson & Game, 1998). In Lewis's (1966) point of view, innovation in local government needs to work with modifications to the structure of the government and public administration, which is a major challenge to the local government system in Thailand.

Definition of Innovation

Let us review the definition of innovation. The term innovation has been used in several capacities depending on the disciplines of study. Innovation is a procedure through which creative thought or

performance is achieved and implemented to solve problems or tasks. Innovation can be defined as an idea, practice, or object which is perceived as new by a person or other group (Rogers, 1983). Wettenhall (1988) saw innovation as a sense of introducing change or bringing in new things, methods, ideas, or products. Innovation is about the uniqueness of the indigenous idea (FIMM, 2000).

Light (1998) defined the term innovation as “whatever is new to you” and under public or private sectors this definition applies equally. An innovation in the private sector deals totally with profit while public sector innovation deals with doing some valuable thing. This meaning offers extreme coherence about what innovation is and is not. In short, it can be summed up in three key explanations: first, nonprofit and government innovation combines whatever is new to a given organization; next, public innovation consists of absolutely doing something other than the public’s business; finally, nonprofit and government innovation combines the greater public good.

There is a difference between innovation and invention in the meaning and the process (Wettenhall, 1988). Invention is an originally new regulation, organization or process that changes the ways in which citizens deal with themselves or each other (Conger, 2009). The innovative organization does not have to invent a new product or service to be innovative. An innovative process is a process where development sustains economic and community profit in an environment (FIMM, 2000).

From many definitions of innovation, the most appropriate term for innovation in public sector is offered by Alberti & Bertucci (2006). The innovation is a uniquely and indigenously creative idea, practice or object that is successfully implemented to solve a forceful public problem. Moreover, it is the act of conceiving and implementing a new way of achieving a result and performing work.

Taxonomy of Innovation

A clear understanding of taxonomy of innovation is now due for a more critical discussion. There are three taxonomies of innovation which this paper would like to highlight. Taxonomy of innovation explains a whole categorical feature of innovation. Windrum (2008) describes three major classifications of innovation consisting of service, service delivery, and organization. These three classifications have been widely investigated in public and private sector innovation. These three types of innovations are integrated as a process.

1. Service Innovation (SI)

Service innovation is innovation of new service or product or an improvement in quality of prior service and product. Any improvement of service performance is innovation. Service innovations exist in the operating component and affect the organization's technical system, and include the adoption of services (Walker, 2010). The most major tasks of both private and public sectors are to provide services. Nowadays, service sectors are more concerned with mastery of economic mobility. A service faces core challenges such as progressing productivity, engagement, and benefits. A service requires strengthening of innovative performance. In Europe, the Lisbon 2000 strategy determined the need to improve performance in services mobility. This means a new strategy for the internal market for services. The significance of services related to economic growth, engagement, and benefits will not be possible without a core capacity for innovation of services (Windrum, 2008).

2. Service Delivery Innovation (SDI)

Service delivery innovation is an updated or improved mode of delivery to citizens, or apart from that dealing with them, for the

aim of quality services coming from a newly created product or service. A higher quality of service delivery will lead innovation. Service delivery is a significant mission of both private and public sectors. As Stewart & Clarke (2011) stated, the pillar of public service is the delivery of services. Public service orientation identifies that a local authority's activities exist to deliver services to the public and will be judged by the quality of service delivery within the resources obtainable. However, the United Nations emphasises that in service delivery innovation public sectors need to operate and deliver more extensiveness and increasable accessibility of public services for their citizens (Alberti & Bertucci, 2006).

3. Organizational Innovation (OI)

Organizational innovation refers to new goals, working procedures or management techniques. More effective goals, processes of working and techniques of management will lead to innovation. Organizational improvement is a primary purpose of innovation in the private and public sector. Effective public sector innovations need both a powerful authorizing environment and also operationalization framework. As with private sector innovation, new ideas in the public sector often need new institutional arrangements and instruments to enable their effective uptake and diffusion (Adams, 2010; Ashworth, Boyne, & Entwistle, 2010). In addition, previous research on innovation has been prosperously challenged in current years at the private sector organization. Now is the moment to critically assess what contributions the public sector has made in innovation (Windrum, 2008).

Additionally, some scholars such as Hartley (2005) attempted to discriminate between technical and administrative innovation, and differentiate between product, service and process innovation. Thus, he distinguished innovation into seven major types, comprised

of 1) product innovation 2) service innovation 3) process innovation 4) position innovation 5) strategic innovation 6) governance innovation and 7) rhetorical innovation. Alberti & Bertucci (2006) provided us with four kinds of innovation: 1) institutional 2) organizational innovation 3) procedural innovation (quality improvement in public services delivery) and 4) conceptual innovation. Their framework is similar to Hartley in governance innovation, strategic innovation, procedural innovation, and rhetorical innovation. Windrum (2008) concluded with six types of innovation, which are 1) service innovation 2) service delivery innovation, latest delivery way to users 3) administrative and organizational innovation 4) conceptual innovation 5) policy innovation and 6) systemic innovation.

To conclude the discussion on general perspective, innovation is defined in a wide variety of ways according to the scholars and literature, which have produced several taxonomy of innovations, which table 1 partially summarizes.

Table 1 Summary of Innovation Taxonomy

Type of innovation	Hartley (2005)	Alberti&Bertucci (2006)	Windrum (2008)
Service	Product & Service	-	Service
Service delivery	Process	Process	Service delivery
Organization	Strategic	Organization	Administrative and Organization
Rhetorical	Rhetorical	Concept	Concept
Institution	Governance	Institution	Policy
Position	Position	-	System

Best practices of Innovation

Next let's review some best practices of innovation that have taken place in public and private sectors. The first part aims to discuss the best private sector practices in regard to three types of innovation. The section ends with an illustration of case study innovation.

Service innovation in the private sector is defined as new developments in the core offerings of service companies that tend to create new revenue streams. In financial and insurance service sectors, innovation includes new or improved mortgage products like interest only or other repayment options, or credit card options (Oke, 2007). Service innovation is not only significant for corporate achievement but is also commonly viewed as extremely crucial for business survival. Service innovation is a necessary part of business, which produces added value to the core business functionality (Noor & Pitt, 2009). However, business services initiate sources of innovation such as information and communication technology service, security service, building cleaning service, and energy service.

Service delivery innovation is improving services which are utilised by many customers simultaneously at one point in time or by many customers at different points in time (Ng, Russell-Bennett, & Dagger, 2007). Service innovation includes the modernization of logistics and transport service to the customers (Ruiz, 2009). The innovation of service delivery in business sectors is crucial to promote growth, increase productivity and related benefits such as improvement in living standards.

Organizational innovation in the private sector is a pattern of business processes that lead organization through high profit and changes in companies. As Ho (2011) stated, innovativeness is a form of social process, which leads organizations to go through a series

of major changes. However, the impact of organizational innovation on business performance is directed toward the effectiveness of a company, such as in implementing new management techniques (for example, outsourced service and management consultancy). Organization innovation demands all employees to immediately employ new techniques in their daily work.

Let's briefly review innovation in the public sector. Service innovation in the public sector is a new service product or an improvement in quality of previous service products by publically owned and accountable organizations that includes whole innovations combining the characteristics of a service product with changed design of service (Potts & Kastle, 2010; Windrum, 2008). The public sector exists to provide public services. Thus an initiative to public service innovation in education service, health care service, and social welfare service is highly demanded. Therefore, service delivery innovation in the public sector is a new way of organizational process that is designed (Hartley, 2005). Alberti & Bertucci (2006) saw quality improvement in public service delivery as innovation. Meanwhile, Windrum (2008) stipulated that a new method of delivery to citizens, to include participation of the public, is innovation in public service delivery.

Additionally, Greene (2003) usefully advised on the direction for service delivery innovation of the public sector. He mentioned that service delivery in the public sector must improve the focus on the customer and consider what best meets their need as well as enhances service delivery for particular groups of organizations, that is, decreasing the numbers of organizations that individuals have to depend on.

Organizational innovation in the public sector is a new goal or organizational intention and an introduction of new procedures of working or public management techniques (Alberti & Bertucci, 2006;

Hartley, 2005). Additionally, organizational leaders view innovation as a source of organizational change, growth, and effectiveness (Damanpour & Schneider, 2009). The public sector is a crucial governance institution that is able to employ the power to convene actors from different sectors, and to both regulate and finance their missions, and can perform a crucial role in introducing innovations in the governance of social production systems (Moore & Hartley, 2008). Organizational innovation in the public sector requires proponents and many times becomes the subject of discussion within an organization. Sometimes innovations are instituted as pilot projects that should be assessed before being implemented in the whole organization. It also leads to new structures within a given organization. For example, organizational innovation often combines with inter-organizational collaboration (Borins, 2002).

We would like to illustrate a case study in order to manifest the best practice in public and private sector innovation. We would like to highlight a case study of Malaysia's public sector pioneered by the National Productivity Corporation (NPC).

The government of Malaysia recognized that in the age where ICT applications and internet within the business sector are highly encouraged, more efficient means of data collection are instrumental to ensuring that only accurate data are used in decision making processes. Moreover, to develop world-class public and private companies in Malaysia, a culture of excellence and enhanced productivity must be promoted. Since 1998, the National Productivity Centre (NPC) has been promoting benchmarking and working closely with various industry associations and government agencies. In the discussion of innovation taxonomy, service delivery is an area which needs to be tackled seriously. In this case study the NPC was given a task to improve the issue of time consumption, high costs, and human error occurring in e-benchmarking database collection

and application. Currently, data collection of the e-benchmarking system was mainly accomplished using the postal system, via survey questionnaires that were delivered by mail. Data verification and validation was conducted through telephone interviews and site visits. As a result, benchmarking reports could not be delivered effectively to the participating industries for immediate use in decision-making processes.

The NPC created a web-based database tool to improve data collection and facilitate effective communication among the benchmarking communities, and benchmark productivity in manufacturing and agriculture, as well as extend such services to other sectors of the economy. The NPC used various approaches such as training, system development, seminars, best practice forums, case studies, surveys, and networking, both locally and internationally. Sharing of knowledge, including international good practices, was further enhanced by the application of a Benchmarking Online Networking Database (BOND), e-benchmark, posters, and publications. The interactive e-benchmarking system is a database developed within the Benchmarking Online Networking Database (BOND). As a web-based tool, the e-benchmarking system was able to expedite data collection for real time comparisons. The BOND database aggregates data on productivity statistics and benchmarks, and categorizes it according to the industries, sectors, processes and years of reference. It facilitates sharing of industry good practices by displaying practices of past award winners, best in class, case studies and TQM best management practices.

To ensure continuous improvement in the public sector, the Malaysian Administration Modernization and Management Planning Unit (MAMPU) of the Prime Minister's Department created a brochure entitled "Guidelines on Implementing Benchmarking in the Public Service", which outlined the importance of benchmarking

for the Malaysian public sector. It became the main driver of benchmarking activities in public agencies and local governments.

Furthermore, NPC consultants were sent for training to leading benchmarking establishments such as the American Productivity and Quality Centre in the United States and the Centre for Inter-firm Comparisons in the United Kingdom. An Australian benchmarking consultant was also commissioned to assist the NPC in initiating benchmarking processes. This pool of benchmarking experts became the prime movers in the Malaysian Benchmarking Service (MBS) (United Nations, 2011).

The private sector always is regarded as more efficient than the public sector. Service delivery innovation of the private sector always focuses on the appropriate logistics or transportation to deliver the best service for prospective customers. However, the public sector is waking up to recognize the importance of improving service delivery through focusing on customers. In addition, organizational innovation in the private sector has a specific vision and several management techniques, which the public sector often attempts to follow. Among examples of service innovation in the private sector is the completed range of ICT service.

Innovation in Local Government

Further, this paper intends to illustrate the situation of public sector innovation in Thai local government. The Thai Kingdom is a unitary state system ruled by government and was grounded on a foundation of parliamentary democracy and constitutional monarchy (Constitution of the Kingdom of Thailand, B.E. 2550, 2007). Administratively, the Kingdom of Thailand's public administration system is divided into three administrative levels – the central administration, provincial administration, and local administration as prescribed under The National Public Administration Act (The National Public Administration

Act, B.E. 2534, 1991). Central administration is comprised of twenty ministries and around fourteen independent agencies. Provincial administration is an arm of central government where officials appointed to govern the 76 provinces, and 878 districts, are responsible for governing the geographic areas under their guidance. They act as representatives of the central administration and direct the provision of certain public services such as police, health care, and irrigative services, which entail resources beyond what local administration can afford. The local government is responsible for local services that have a regional or community effect according to the principle that citizens living in a community should be able to govern themselves in all matters of local involvement (Setabutr et al., 2002).

Local government in the Kingdom of Thailand is self-governed and is divided into five forms with different organizations. There are the Provincial Administrative Organizations (PAO), the Municipality, the Sub-district Administrative Organizations (SAO), the Bangkok Metropolitan Administration (BMA), and the City of Pattaya (Thavesetra & Nuansakul, 1999). When it comes to rendering community services, local government is a key organization of the public administrative system in the Kingdom of Thailand, hence it is the largest unit in which performance has direct effects to citizens' needs.

Thai local governments are affected by the decentralization of autonomy. The decentralization brings about five aspects of change and must be discussed to offer some background to public sector innovation in Thailand. First, the extension of local government's responsibilities and power is more explicit and comprehensive. Second, a balance between supervision of local government and its independence must be reached. Third, local government must provide its own performance and administrative systems. Fourth, public space for citizens, communities, and civil society as a part of

local administration within local government must be provided. Fifth, transparency in local politics must be upheld (Tanchai, 2008).

The Royal Thai government pays full attention to public service innovation in local government. As Vejajiva (2010) mentioned, innovation reflected a commitment and a capacity of all local governments relating to creativity or new ideas on how to address the citizens' problem in their localities. The encouraged initiatives and innovations strengthened by way of decentralization procedure. Moreover, innovation could present a reflection of efficient performance, good governance, role adaptation, and also the integrated mission between local government and the other government agencies such as the central or regional, or even with other local governments.

Local governments in the Kingdom of Thailand are faced with several challenges in the aspect of service, service delivery, and organization. The first challenge is related to service. The decentralization act has its rationale where local government has the capacity to manage and develop its own areas effectively. Moreover, in line with the realities of the situation they have authority to manage their budget, personnel, and material.

Even though most local governments have made improvement in terms of structure and responsibilities, their performance in service is still below par. The image of Thai local government is still somewhat questionably negative. As Pungngam (2009) proposed, there are many problems contributing to the poor performances of local governments both in producing and providing things such as infrastructure development, community security, education, public health, the environment, as well as culture and sport. Regarding these service tasks, many local governments cannot meet local needs with local services

The second challenge is related to service delivery which has to

do with extensiveness and accessibility of services. As Krueathep(2005) mentioned, several local governments in the Kingdom of Thailand are unavailable for those who live in rural areas. Educational and public health services are primarily delivered to those in the area where populations are centered.

The third challenge is related to organization in the area of good governance. Suwanmala (2004) highlighted that some local governments lack transparency, accountability, participation, and most importantly, are corrupt. Also, Liu (2008) stated that the New Constitution has suggested decentralized local government as a cornerstone of its new vision of responsive, responsible, equitable, and accountable public sector governance in Thailand. Not only good governance but also public participation has been emerging in local governments. Pungngam (2010) stated that currently, local governments of the Kingdom of Thailand have a problem with citizen participation in their activities such as lack of local elections, performance monitoring, and local development initiatives.

These challenges must be addressed by innovation. Three types of innovation (service, service delivery and organization), as discussed earlier, must be introduced into local government and how it organizes and utilizes resources for service delivery to distant, drawback, and challenged citizens.

First, the service challenge (decentralization) is influenced by initiative innovation in local government. Service innovations are related to socio-economic context and the problems of each region and community, such as garbage and public health, environment and natural resource management, and community economic development (Suwanmala et al., 2006). Service innovations are able to be efficient and effective responses to problems, local services, and local needs. It also becomes a crucial issue for local government in the Kingdom of Thailand and for those in developing countries.

As Jones (1997) mentioned, the local government is a diverse organization that contributes a resource for learning and innovation. Second, service delivery challenges (extensiveness and accessibility of services) are able to lead innovation into local government. Thailand's local governments have successfully implemented 61 innovations for learning and improving efficiency extensiveness and accessibility of service delivery. The Thai Local Innovation Award (TLID) is given to local governments that have successfully demonstrated preeminence in innovation and good practice.

Finally, organizational challenges (good governance and public participation) have an effect on innovation. Most organizational innovations are presently engaged and targeted at improving efficiency and drawing more innovation for good governance, which combined with increasing democracy, responsibility, and public participation could push and pull more wide-ranging improvement for the future of local government performance (Hunmin, 2006). Thai local governments are attempting to push and pull public organizational innovation into greater benefit for their citizens. For example, Tungsong Town Municipality in Nakhon Si Thammarat had demonstrated the best practices in showcasing new goals and new working procedures that were rewarded by King Prajadhipok's Institute (KPI). In 2006, Tungsong Municipality collaborated with other government agencies, the private sector, and the community to solve the flood problem in Tungsong Town. The innovation involves new procedures where a problem solving network was introduced to solve impromptu problems regarding flood management. Consequently, this new working procedure became the integrated development network of Tungsong Town.

This type of innovation is encouraged and if the understandings of taxonomies are well embraced by local government officials, the Thai local governments will be better equipped to take up a wider

framework of innovation for their citizens.

Conclusion

This paper reviews the conceptual framework of innovation and innovation taxonomy. The concept of innovation is unique and new creative ideas, practices or objects that are successfully implemented to solve forceful public problems and challenges. The three major taxonomies of innovation have been given focus-service innovation, service delivery innovation, and organizational innovation. This paper discusses the best practices of innovation taxonomy in both the private and public sector. This paper illustrates the NPC innovation initiative in Malaysia, a government move to introduce innovation. In the case of Tungsong Town Municipality in Thailand, a local government initiative is highlighted to showcase best practices in innovation in local government. This paper will be beneficial for scholars and researchers who need to clearly understand the concept of innovation and taxonomy in both the public and private sector.

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