Innovation for the Development of Police Station Management in Thailand

Koravic Jaruprat,
Amnuay Saengnoree and Thapong Teerawatananond
Technology Ladkrabang, Lat krabang, Bangkok, Thailand
Corresponding Author, E-mail: koravic677@gmail.com

****

Abstracts

Innovation is the process of generating ideas, developing solutions, or managing various problems that arise. Police stations are organizations that require the integration of innovation to improve service delivery and operational efficiency. The importance of applying innovation in police stations lies in their duties and the high number of people utilizing their services. This article aims to explore the meaning of innovation, the necessary forms of innovation for police management, types of innovation, technological innovations, projects related to police station innovation, factors influencing the adoption of innovation in organizations, and the establishment of an innovative culture for management implementation. This information serves as a reference for agencies or individuals interested in studying and applying innovation to enhance their knowledge in organizational innovation.

Keywords: Innovation; Development of Police Station; Management

Introduction

The Royal Thai Police is a state agency responsible for ensuring the safety and providing services to the general public nationwide. Its duties include handling emergencies, criminal activities, riots, and disturbances. Currently, various threats have caused significant unrest among the public, leading to an increased demand for police services. Therefore, police stations are organizations that require the integration of innovation to improve service delivery and operational efficiency. The outcomes of innovation activities are crucial as they contribute to the overall effectiveness, efficiency, service quality, and sustainable development of the organization (Kapuria & Maguire, 2022).

Innovation refers to the creation of new products, services, or activities that primarily respond to the needs of society. Innovation helps in the development and advancement of society, communities, and the environment, as well as improving management efficiency. It also elevates the quality of life and serves as a vital mechanism for promoting justice and reducing social disparities (Laufs & Borrion, 2021). Innovation has become a new global strategy that emphasizes the importance of using innovation to solve social problems and support management (Laufs & Borrion, 2021). Currently, various applications are being used to enhance communication efficiency, such as the Police 4.0 application. This application allows police officers to record their duty sign-ins, scan QR codes to inspect red light violations, and record daily checkpoint assignments. It helps facilitate convenience and supports efficient management, allowing police officers to work more effectively and efficiently

---

From reviewing the literature on factors affecting the performance of police stations, it was found that promoting and implementing innovation in management consists of four dimensions: technological innovation, knowledge management (KM), innovation culture, and innovation management. Currently, there are a total of 4,168 police stations in Thailand (Personnel Directorate, Royal Thai Police, 2020). With such a large number of units, the importance of utilizing innovation becomes crucial for police stations. It not only facilitates convenience for officers but also provides convenience for the public who seek their services. This article aims to explore the meaning of innovation, types of innovation, technological innovation, projects related to police station innovation, and the adaptation of innovation culture in organizational management.

The meaning of innovation

According to the study, there are various definitions of innovation provided by scholars, but they generally share similar characteristics in terms of the definition itself. The difference lies in the specific context of innovation discussed by different scholars, both Thai and foreign. The following are summaries of the meaning of innovation according to Thai and foreign scholars:

Drucker (1985) states that innovation refers to a source of progress and development for organizations and nations that continuously manage innovation, resulting in sustainable economic development. It is a specific tool for entrepreneurs to turn change into opportunities.

Tushman and Nadler (1996) state that innovation refers to the creation of new products, services, or processes, which consists of two components: generating ideas or inventions and the commercial outcomes of these ideas and inventions.

Quinn (1992) states that innovation refers to initiating, conceptualizing, developing, solving, or managing various problems that occur within a community. It is the main mission of local government organizations, which may be related to public service provision, local political development, and promoting participation or internal management. All these operations should benefit the community.

Rattanasuwancharit, Rukchuphonchai, and Wongthongdee (2019) state that innovation refers to fundamental knowledge that leads to competitive advantages for various organizations, regions, and countries. At the same time, the market system relies on the ability to create new products and find ways to produce new products. Contemporary society seeks higher standards of living.

Based on the aforementioned statements, the author concludes that innovation means applying new ideas in practice, which results in the creation of new or improved services to provide greater benefits.

Types of Innovation Necessary for Driving Police Station Management

In developing innovations, whether existing or new, it is necessary to consider the appropriate types of innovation that can help transform the organization to be competitive in terms of innovation development and creative thinking. This will lead to efficiency in management and public service provision. The following are six types of innovation:

1. Profit Model is an innovation created to transform the value proposition of an organization into revenue or service profitability. The organization needs to understand the service requirements of its users, such as what services they would like to use or identify opportunities to increase value through additional services.

2. Network is an innovation created by utilizing networks to generate new value or by collaborating with other organizations to enhance and develop processes, technologies, or product branding. Open Innovation is considered an innovation in the Network category, as it arises from the skills and expertise of individuals and groups outside the organization.

3. Structure is an innovation that enables resources and assets within a company to create greater value. By changing the organizational structure at the corporate strategy level, Structural innovation can improve the organizational environment. This helps the organization to hire more skilled personnel and increase efficiency in operations. Adapting the business structure to respond to changing needs is possible with this type of innovation.

4. Process is an innovation that arises from changes in both operational activities and related practices involved in the creation of products or services sold by the company. By improving processes, organizations can elevate their distinctive capabilities, including delivering more effective functional-level operations and creating greater differentiation than before.

5. Service is a category where innovation is driven by the desire of all service users to receive excellent service. Many people perceive service provision separately from innovation, but providing excellent service helps create a positive impression on service users and enhances the innovation value within the innovation itself

6. Channel is an innovation that arises from the creation of new channels to access services, aiming to provide users with a better service experience. (Wasupichat Yanaboon, 2018)

Types of Innovations

Based on the study, it is found that innovations can be classified into 5 types (Nayana Rattanasuwancharit et al., 2019) as follows:

1. Product Innovation: Refers to the development and introduction of new products, including technological advancements or usage methods. It also includes improvements to existing products to enhance their quality and efficiency.

2. Process Innovation: Involves creating, developing, or making significant changes in work processes, whether it's production, delivery, responsibilities, job nature, or other aspects. It aims to increase efficiency and noticeable effectiveness and can lead to the creation of new product positions in the market.

3. Business Innovation: Refers to innovations that bring positive changes to an organization. This includes adjusting organizational operating methods, as well as developing new products or services for the business. Business innovation is the result of research and development within the organization.

4. Service Innovation: Involves creative thinking in the process of developing new products, services, or new activities to meet the diverse needs of service users. It integrates the management capabilities of the organization and builds interactions with service users to create value in the service.

5. Technology Innovation: Refers to the development or improvement of new products or processes that differ significantly from the previous ones in terms of technological aspects. Technological innovations in products (product innovation) or usage processes (process innovation) are brought to the market.

In the context of organizations or businesses, innovations can be categorized into 4 types based on creative thinking perspectives (Sompat Namboonruang, 2019) as follows:

1. Customer-Oriented Innovation: This type of innovation is focused on meeting and responding to the new needs and requirements of customers. It involves creating innovative solutions that cater specifically to customer demands.

2. Product Innovation: It involves the development and introduction of new products, including advancements in technology or usage methods. It also encompasses improving existing products to enhance their quality and efficiency.

3. Process Innovation: This type of innovation focuses on creating, developing, or making significant changes in work processes. It includes innovations in production, delivery, responsibilities, job nature, and the creative development of various processes. The objective is to increase efficiency, effectiveness, and product positioning in the market.

4. Strategic Innovation: This type of innovation is related to changes in strategies or the adoption of new business approaches. It involves innovative transformations in the overall business system.

Technological Innovation

According to the study, the Royal Thai Police have implemented various technological innovations in their diverse operations. These innovations aim to promote and support innovative initiatives for preventing and combating motor vehicle crimes, among other tasks. The necessary components for technological innovation within the Royal Thai Police consist of three elements:

1.   Hardware Technology: Hardware technology refers to the application of scientific knowledge in producing various computer-related devices. It includes technologies for recording or inputting data, display technologies, and data storage technologies.

2.Software Technology: Software technology refers to the development of programs to enhance the performance of hardware devices. It involves improving technological capabilities through the ability to upgrade, develop, and introduce new features or functions easily.

3.Network Technology: Network technology involves connecting computers and devices to facilitate communication, data exchange, and collaborative use of networked devices. This includes Local Area Networks (LANs) that connect computers and devices within a small-scale network, such as a home network.

The benefits of network technology include resource sharing, such as shared printers accessible to all network users, convenience, and cost savings. File sharing becomes more efficient and rapid, eliminating the need for physical storage devices. Communication between computers on a network is facilitated by communication software, such as instant messaging or internal email. Home networks or home offices can reap many benefits from these technologies (Byrne & Marx, 2011).

Project related to police station innovation

Innovation is a new concept that arises from the use of knowledge and creative thinking. It can take the form of products, ideas, or processes that can be used to benefit development (National Innovation Agency, 2019). Innovation is crucial for organizations and is considered a vital aspect of keeping up with current changes. Based on research, the following projects are related to innovation in police stations:

1. Bangsue Innovation Police (BIP): Innovation Project for Preventing and Combating Motor Vehicle Crimes by Pol. Col. Vorapat Sukthai (2019) The Bangsue Innovation Police (BIP) project focuses on addressing the frequent motor vehicle theft issues in the Bangsue area. To solve this problem, the project team collaborated with the National Science and Technology Development Agency (NSTDA) to discuss possible solutions. They identified the use of GPS trackers as a technology to track vehicles. However, the cost of the existing GPS trackers used for tracking oil tanker trucks was too high for installation on motorcycles owned by the general public. To overcome this challenge, the project team partnered with a private company to develop an innovative NB-IoT GPS Tracker under the government's Public-Private Partnership (PPP) policy. The project received support from the National Innovation Agency (NIA) with a budget of 1.3 million baht. Around 200 sets of NB-IoT GPS Tracker prototypes were developed and tested, with a price of 1,500 baht for the device and a monthly network service fee of 50 baht. The project also involved the development of a monitoring system with a command control center located at the Bangsue Police Station. The project aimed to register 200 participants who owned motorcycles within the jurisdiction of the Bangsue Police Station. The GPS tracker would provide vehicle location coordinates and send alerts to three parties: the Bangsue Police Station, vehicle owners, and participating businesses. The tracker would also record driving behavior to check if the motorcycles exceeded speed limits. Additionally, it would send notifications if motorcycles were operating as unauthorized taxi services outside the designated area, helping to control and address issues of motorcycles competing for passengers across different jurisdictions.

2. The Smart Inspection Checkpoint project at Rongrit Ngamchaeng (2019) aims to implement advanced technology in inspection checkpoints. The main technology utilized is high-performance AI-powered cameras that record and store vehicle data during both the inbound and outbound journeys. When suspicious vehicles are identified, the system immediately notifies the authorities, providing real-time information about the target vehicle passing through the checkpoint, including the number of passengers and other relevant data. This enables quick and efficient interception and apprehension. Normally, when instructed to intercept a target vehicle, officers would wait at the checkpoint for at least three hours. If the target vehicle does not appear, they would have to relocate to a new checkpoint, which takes an additional three hours. However, with this innovation, authorities can instantly determine whether the target vehicle has entered the area and at what time. This greatly enhances the convenience and real-time effectiveness of the officers' operations.

In addition, there is also an innovation called "Home Security Deposit with Police" implemented by Chokchai Provincial Police Station. This innovation connects CCTV camera signals to smartphones and tablets, allowing real-time situation reporting through the LINE application. This provides reassurance to residents who wish to travel to other provinces during festivals, as theft and burglary incidents frequently occur within the village due to its secluded location far from the main road. Criminals often ride motorcycles in pairs, creating a sense of fear among the residents. This is a significant reason why over 10 households in this community participate in the annual Home Security Deposit program with the police, both during the New Year and Songkran festivals. The Chokchai Provincial Police Station leads the way by connecting CCTV camera signals to smartphones and tablets, allowing homeowners and police officers to monitor activities 24 hours a day through the internet. Homeowners can also communicate with the police through the LINE application, providing reassurance to residents who wish to travel to other provinces (The Voice TV Editorial Department, 2012). It has now developed into "Home Security Deposit with Police 4.0" through the "Home Security 4.0" application.

Apart from that, there are many other innovations, such as the "Police 4.0" application, which allows police officers to record their duty log, inspect red light violations by scanning QR codes, and record daily checkpoint assignments. It also enables recording various data, including CCTV information from each responsible area, and allows recording of public inspection visits. Additionally, the "Police i alert u" application serves as an emergency notification app, allowing users to report emergencies and incidents directly to the police through their smartphones, without the need to call the emergency hotline 191. By simply requesting assistance through the app, the system coordinates and dispatches police officers to provide immediate assistance and services.

Factors that impact the adoption of innovation in an organization:

For an organization to successfully implement innovation, it typically involves various aspects and factors that influence the occurrence of innovation. The key factors that have an impact on the success of innovation management can be summarized into five categories (Tidd & Bessant, 2021) as follows:

1. Strategy and management alignment: In this step, it is essential to have a strategy aligned with the organization's overall strategy. Top-level managers have the responsibility to define and communicate clear strategies throughout the organization. This communication should ensure that employees at all levels understand the direction of the strategy and share a common vision to implement it effectively.

2. Managing the innovation process and innovation resources: This involves having clear processes that enable practitioners to efficiently generate and develop ideas leading to innovation. It begins with presenting and exchanging ideas, evaluating them, and implementing them to bring them to market. Additionally, organizations need to have systems or mechanisms in place to track the success of innovation, identify and rectify any errors, and analyze the optimal utilization of available resources to manage innovation effectively.

3. Managing the innovation organization: Another crucial factor is managing the organization's structure to facilitate the occurrence of innovation. This involves reducing constraints across different departments and encouraging employees to think creatively. The organizational structure should be flexible, agile, and have policies that support employees in generating and initiating innovative ideas.

4. Linking with the external environment: This refers to establishing connections with the external environment surrounding the organization, including the social, market, cultural, economic, and technological aspects. These external factors influence the direction of innovation creation. Organizations should build positive relationships with stakeholders to create opportunities for collaborations and joint innovation initiatives.

5. Managing the learning process: This entails overseeing and managing a systematic learning process to leverage existing knowledge within the organization. It serves as the foundation for generating new knowledge effectively and efficiently, particularly concerning the embedded knowledge within the personnel of the organization. Managing the relationships of personnel is essential to facilitate a systematic and effective learning process.

Creating a culture of innovation for application in organizational management is important

In addition to technological innovations that are necessary for providing convenience to the public who use the services. Another important aspect for the National Police Office is the adoption of an innovation-driven culture in the organization or unit to enhance efficiency in management. Given the National Police Office's missions, personnel, and the significant workload, it is necessary to establish a culture of innovation to improve organizational management. Innovation culture is essential and crucial for the development of an innovative organization, as it helps to develop management systems that are faster and more efficient. Building an innovation culture includes:

1. Starting with simple innovations is important in creating a culture where everyone feels comfortable participating in innovation. Some employees may not have been involved in collaborative design processes before. Following the principles of Lean, organizations can create or utilize internal communication to provide knowledge to employees about the meaning and principles of innovation. Alternatively, organizations can start by sharing articles and innovation concepts from management executives with employees. If the organization has training plans to provide knowledge to employees, it should begin by focusing on basic concepts such as teamwork and generating ideas for new products or services.

2. Promoting diversity within innovation teams. Research from various sources confirms that diversity is a critical driving force for innovation. It becomes easier when innovation teams in the organization have a high level of diversity in various aspects. When starting to build a more innovative culture, organizations should ensure that different perspectives are presented and not overlooked when initiating innovation. Innovation teams should comprise representatives from various departments with diverse industrial experiences. Additionally, diversity in terms of gender, age, and qualifications should be considered as they are all crucial for fostering innovation within an organization.

3. Reducing unnecessary regulations. Innovators like Rolls-Royce have shared powerful stories about color. When their innovation team began designing a new innovation lab at the company's headquarters, they provided the organization's brand guidelines that specified details about flooring and wall colors that could be used. The first thing the innovation team did was to disregard the guidelines and paint the walls with a deliberately unapproved color. This was done to demonstrate that the innovation lab is a space where traditional

processes and thinking of the organization are left behind at the door. It's a new space for new approaches and ideas, and some rules are no longer necessary.

4. Fostering curiosity. A good way to ignite curiosity within a team is to create opportunities for them to explore and discover. Encourage employees to participate in community activities and attend training courses in their areas of interest. Seek and promote their involvement in activities related to innovation and creative thinking. Another way to foster curiosity among employees is to bring external knowledge into the organization. In their pursuit of new innovations, Rolls-Royce organizes monthly "Digi-Talks" where guest speakers are invited to discuss various topics with employees, ranging from machinery to the art of paper folding. Another large organization in the United States has also started building internal innovation by bringing in external facilitators to lead workshops on different topics, such as brainstorming for new ideas within limited timeframes.

5. Know your own people. When initiating the communication of an organization's innovation project, employees can be divided into three groups. The first group immediately buys into the plan, the second group refuses to buy in, and the final group remains indifferent without making a decision. The organization should engage in conversations to understand and communicate with the employees in the final group, discussing why innovation is important and how the employees perceive it. It is important to assess whether the management has given significance to innovation, and whether the resources and activities support employees in creating innovation (Sharifrad & Ataei, 2012; Pacharawan Suttirak, 2019).

Summary

Innovation involves the initiation, ideation, development, and management of solutions to various problems. The Royal Thai Police is a government agency responsible for ensuring the safety and providing services to the public nationwide. Their duties include responding to emergencies, combating crimes, and maintaining public order. With the increasing threats and challenges faced by society today, there is a greater demand for the services of the police, making it necessary for police stations to adopt innovation to improve service delivery and operational efficiency.

The importance of innovation for police stations lies in their mission and the increasing number of people relying on their services. Therefore, implementing innovation is crucial for police stations as it has a significant impact on their overall performance, management effectiveness, service quality, and organizational development. It helps enhance service quality, improve organizational capabilities, and ensure long-term stability. Therefore, the Royal Thai Police should develop and implement necessary innovations to facilitate the work of their personnel and provide convenience for the public when accessing their services.

References

Byrne, J. & Marx, G. (.(2011 Technological Innovations in Crime Prevention and Policing. A Review of the Research on Implementation and Impact. *Journal of Police Studies*, (20) 3, .40-17

Drucker, P. (.(1985). Innovation and entrepreneurship. New York: Harper Row Publishing.

Kapuria, M. & Maguire, E. (.(2022Performance Management and the Police Response to Women in India. *Social Sciences*, (58) 11, .17-1

Laufs, J. & Borrion, H.. (.(2021 Technological innovation in policing and crime prevention: Practitioner perspectives from London. *International Journal of Police Science & Management,* (0) 0, .20-1

Nayana, R., Khemmamari, R., & Siripatsorn, W. (2019). Innovation Management. *Journal of Politics, Administration, and Law,* 11 (3), 543-554. (in thai)

Narongrit, N. (2019). DITP Supports 'Police Innovation,' Confident in Penetrating the Market of Neighboring Countries. *Online.* Retrieved April 16, 2023, from 2 https://www.Bangkok biznews.com/tech/849992. (in thai)

Office of National Innovation Development. (2019). Innovation for Society. *Online.* Retrieved April 9, 2023, from https://social.nia.or.th/about/. (in thai)

Pacharawan, S. (2019). Culture of Innovation. *Online.* Retrieved May 19, 2023, from https://www.ftpi.or.th/.31401/2019 (in thai)

Quinn, J. (.(1992) . *Intelligent enterprise*. New York: Free Press.

Sharfirad, M. S., & Ataei, V. (.(2012). Organizational culture and innovation culture: exploring the relationships between constructs. *Leadership & Organization Development Journal,* (5) 33, .517-494

Sombat, N. (2019). Innovation and Management. *Journal of Academic Research*, 2 (2), 121-134. (in thai)

Tidd, J. & Bessant, J. (.(2021). *Managing Innovation Integrating Technological*, Market and Organizational Change. United States: Wiley.

Tushman, M. L., & Nadler, D. (.(1996). Organizational determinants of technological change: Toward a sociology of technological evolution. *Research in Organizational Behaviors,* 14, .147-311

Warapat, S. (2019). DITP Supports 'Police Innovation,' Confident in Penetrating the Market of Neighboring Countries. *Online.* Retrieved April 16, 2023, from https://www. bangkokbiznews.com/tech/849992. (in thai)