

# Innovation Management in Police Organisations: Exploring the process from scientific innovation to police training

**Sirpa Virta**  
**Harri Gustafsberg**  
University of Tampere, Finland



## Abstract

This article deals with the process of managing innovation(s) in the police. Innovation management is seen as an organisational response to complexity and uncertainty and therefore, also a method to improve organisational performance and to enhance organisational resilience. The case of translating scientific research results in to the police training and practices in Finland is an illustration of innovation management process that is characteristic to learning organisation. The research results of the international multidisciplinary research project of University of Toronto and Police University College of Finland show that the innovation (IPREP training program) developed in the research project has positive consequences for individual resilience of police officers and therefore, consequently, for organisational resilience too. The empirical research was conducted among police organisations in Canada, Finland and the United States in 2014-2017.

**Keywords:** innovation, innovation management, learning organisation, resilience

## Introduction

This article deals with the process of managing innovation(s) in the police. Innovation management is seen as an organisational response to complexity and uncertainty and therefore, also a method to improve organisational performance and to enhance organisational resilience. The complexity of modern problems, such as terrorism, political and organized violence and cybercrime, place a heavy demand on the police. Traditional hierarchical command-and-control structures have served policing sufficiently so far, but are no longer up to navigating the complexity of social problems and are suboptimal for the organisational flexibility that is required to deal with them. *'Traditional hierarchical police management styles have led to a sys-*

*tem where accountability for decisions falls upon senior managers, whereas frontline staff is expected to comply with procedures rather than think'* (Knutsson & Thompson, 2017: p. 2). Bottom-up policing innovations, based on practical ideas and inventions, as well as scientific innovations produced by international or domestic research projects, are useful for the police only when the police organisation has an innovation strategy, a flexible innovation management process and facilitative leadership, creating a creative atmosphere.

In the European Union innovation strategy – From Research to Security Union (European Commission, Migration and Home Affairs, 2017) – the EU-financed security research is seen playing an important role in developing innovations, solutions and technologies

for use by police and other law enforcement officials. The whole Horizon2020 Research Program, like the former Framework programs, is aimed at producing research and innovations, in order to meet challenges for handling security threats and fighting terrorism, cybercrime, human trafficking and natural disasters (European Commission, Migration and Home Affairs, 2017). The Security Research, Innovation and Education Event 2017, organized by the European Commission and the Estonian Academy of Security Sciences in Tallinn 14-15 November 2017, also discussed open innovations in security research and regulation and legislation as drivers or obstacles for innovations. The EU system of innovation promoting by security research funding can be seen as a European-wide innovation management process. The next steps in the process will be the establishment of a European Innovation Partnership on Security (EIP) and setting up a dedicated security Knowledge and Innovation Community (KIC) (Towards a Stronger Security Union: Current state of play and future trends in EU Security Research, 2017: 14-15).

What is innovation then? There is a wide variety of definitions. A useful definition here is that innovation is a process which brings some new method into an organisation. Therefore, something is an innovation only if it is a process that changes the manner in which an organisation performs its task. The second general definition sees innovation as a product or programme that an organisation adopts. The studies of police innovations have used the requirement that an innovation must be new to policing. The innovation types classified in the article *Measuring police innovation*, by William R. King (2000) are as follows: radical or incremental innovations, administrative (field oriented, management oriented), management / technical innovations, line-technical innovations (tactics, weapons) and programmatic innovations (crime oriented, efficiency, community) (King, 2000: 307-310). Innovation management should be included today in to the leadership and management structures and processes in the public sector too.

Scientific research in many disciplines produces innovations for law enforcement. Police sciences' and research's impact and outcome are always based on particular disciplines' (or multidisciplinary) basic and applied research, knowledge and innovations. Capacity and capability of police organisations to adapt and manage innovations are dependent on many variables like level of centralization, types of innovation, creative

atmosphere, leadership, environmental contingencies, etc. Recently, it has been argued that evidence-based policing, as a policing knowledge process, is a disruptive innovation in itself (Mazerolle et al., 2017: 117). The case of translating scientific research results into the police training and practices in Finland is an illustration of innovation management process that is characteristic to a learning organisation. The research results of the international multidisciplinary research project of University of Toronto (HART, the Health Adaptation Research on Trauma Lab) and Police University College of Finland show that the innovation (iPREP International Performance Resilience and Efficiency Program) developed in the research project has positive consequences for individual resilience of police officers and therefore, consequently, for organisational resilience too. The empirical research was conducted among police organisations in Canada, Finland and the United States in 2014-2016.

The case study is introduced in Harri Gustafsberg's Doctoral thesis '*Do People Get Shot Because Some Cops Panic? Enhancement of Individual Resilience through a Police Resilience and Efficiency Training Program*' (2018).<sup>1</sup> The Police University College of Finland adopted the iPREP training program after the results were published in scientific journals in 2015-2016. The innovation management process of translating the research results into the everyday training practices is evaluated in this article.

## Governing complexity through innovations and innovation management

The complexity of the theoretical approach to policing and police research suggests that policing and police services are parts of a complex adaptive system that has three levels: the policy system, the organisational system, and the individual practitioner level. At all levels, but especially at the policy level and the organisational level, innovation management is seen as a response to govern the complexity and uncertainty of the environment (changes and challenges of societal security, crime and disorder, threats). '*Within the context of complexity theory, arguments are made for the importance of creativity at all levels of the system and (...) novel*

1 The innovative training method is introduced in four scientific articles where Gustafsberg is a co-author (see Andersen et al. 2015a; Andersen et al. 2015 b; Andersen et al. 2016; Andersen & Gustafsberg 2016).

solutions to apparently intractable problems' (Pycroft & Bartollas, 2014: 11).

The vision of the evidence-based policing model is that research findings should be taken into the heart of practitioner decision-making so that they inform and influence how decisions are made (Knutsson & Tompson, 2017: 214). According to the definition, evidence-based policing is *"the use of the best available research on the outcomes of police work to implement guidelines and evaluate agencies, units and officers. Put more simply, evidence-based policing uses research to guide practice... It uses best evidence to shape the best practice. Evidence-based policing is about two very different kinds of research: basic research on what works best when implemented properly under controlled conditions, and ongoing outcomes research about the results each unit is actually achieving by applying (or ignoring) basic research in practice"* (Scott, 2017: 28).

Innovations are vital for the police today, in order to be able to fight crime and disorder and control and govern the ever-increasing complexity of interdependent security threats. The Intelligence-led policing model builds on knowledge and information management processes of the police, but many police organisations lack innovation strategies in their knowledge management systems. The focus being on existing knowledge and information gathering means that creative thinking, experiments and innovations get not enough attention. It has been argued in the recent article of Virta and Taponen (2017) that police organisations and regimes tend to adapt new ways of thinking and doing quite slowly. Regulation and legislation, hierarchical structures and organisational culture traditions may be obstacles for innovations (Virta & Taponen, 2017; see also King, 2000). Instead, bottom-up practical innovations and innovations based on scientific research should be included in the knowledge management processes of the police. Innovations and creative thinking should be encouraged and rewarded.

Innovation research has been divided into two major categories; one category is concerned with examining the process of adoption of an innovation (innovation process research). Another category of research has focused on the association between innovativeness of organisations and organisational performance (innovation variance research). In the fields of organisational theory and strategic management, the focus is on the identification of organisational characteristics and pro-

cesses that distinguish early adopters of innovations from late adopters (Subramanian & Nilakanta, 1996: 633). In this article we evaluate the process of adoption of an innovation.

### **Innovation management process evaluation: the case of iPREP International Performance Resilience and Efficiency Program**

It has been argued for instance by Adams, Bessant and Phelps (2006) that there is an absence of a holistic framework for covering the range of activities required to turn ideas into useful and marketable products. The measurement of innovation management at the level of the particular organisation requires a holistic framework. Innovation processes can be modelled as a series of events, as a social interaction, and as a process of communication. In the project management research approach there are a number of common elements that can be summarized as the major components of the innovation management: project efficiency, tools, communications and collaboration. The holistic framework of the innovation management process, suggested by Adams, Bessant and Phelps (2006: p. 21) consists of seven categories: inputs management, knowledge management, innovation strategy, organisational culture and structure, portfolio management, project management and commercialization. The framework can be applied also in the innovation management process evaluation of a public organisation like the police.

The police resilience and efficiency training program iPREP is a scientific innovation that has recently been piloted and adopted in the Police University College of Finland. The innovation is a result from an international multidisciplinary research project led by the University of Toronto. According to the leader of the research project, Professor Judith Andersen, in the BBC News interview 9<sup>th</sup> December 2016: *'In police work, strong stressors will cumulate into acute physiological stress responses that in a multifaceted process will in turn affect the cognitive, motor and sensory processes of the individual officer. Under the influence of acute stress reactions an individual's ability to perceive is changed so that rational-logical thinking is hampered, which will further have detrimental effects on problem solving and decision-making capacity. The ability to sustain good situational awareness and make decisions*

*based on it is a professional skill of utmost importance in police work. A panic state is not professional. Policing is a lifesaving occupation. We should expect that police officers receive the best scientifically proven training that is available. In 2015 US Police shot and killed 991 persons of whom 94 were unarmed'* (Gustafsberg, 2018: 21).

According to evidence-based policing principles there is the need to have a good practical understanding of the problems faced by individual police officers and police organisations. The paradigm of evidence-based policing is primarily related to knowledge management, innovation management and research and evaluation methods. The innovation process that led to the research and development of the innovative training method iPREP started in a CEPOL (European Union Agency for Law Enforcement Training) seminar of European police psychologists in Finland in 2013. A co-author of this article, Harri Gustafsberg, had a presentation based on his personal experience, from for instance hostage situations, as an operative commanding leader of Karhu (the National Special Intervention Unit of the Police in Finland). The key note speaker, Judith Andersen, research director at the HART Lab of Toronto University Psychology Department, invited the Police University College to join in an international research project. The research proposal was accepted by the Head of the Police University College Kimmo Himberg in the spring 2014. This was actually the first step in the innovation management process (inputs management). In August 2014 the research project started in Finland. Later in 2014, the research project was extended to Canada and in 2015 the Police Training Institute of Illinois, US, joined in the project. In 2016 and 2017 the team conducted psychophysiological training interventions for front-line police officers in Peel, Ontario. The training proved to significantly reduce inappropriate use of lethal force upon completion of the training according to a six-month follow-up study (Gustafsberg, 2018: 23-24).

There were several phases in the research project. The three most important articles of the research team dealt with fostering resilience among the police, mental preparedness training and a training method to improve police use of force decision making: a randomized controlled trial (Andersen et al., 2015; Andersen et al., 2016; Andersen & Gustafsberg, 2016). At the same time when the original research project and interventions were going on, the researcher Harri Gustafsberg was studying in the Masters Programme of Police Man-

agement and Security Governance at the University of Tampere. The Police University College supported also this process, which means that in the innovation management process, the scientific quality of the whole research process was guaranteed in this respect too.<sup>2</sup>

In his thesis in 2016 Harri Gustafsberg evaluated how the Police University College integrated a new coaching method into police training. The thesis was based on the theory and concept of organisational learning, introduced by Peter Senge in 1990. The evaluation focused on the pilot phase of the adoption of the innovation. After the project had started, the pilot phase was the second step in the innovation management process. The evaluation data was mainly the interviews of lecturers and trainers of the Police University College and the main questions were: how the new coaching method had been integrated into the training schedule, what challenges if any were observed by the interviewees, and how the changes were experienced at the organisational level. The core themes were those of the learning organisation, individual professional skills and wellbeing and safety at work.

The iPREP training method was tested first with the teachers and trainers. The training provided in the course focused on the psychological and physical effects of exposure to chronic stress, which can lead to health problems and compromise police officers' work performance. The aim was to teach police officers skills that help them to

- improve their mental and physical health,
- build tolerance and develop emotional survival techniques,
- improve their work performance,
- reduce the impact of stressors on their mental and physical health, and
- lower their threshold for seeking support and help (peer support or other psychological help) within the police organisation.

The conclusions drawn brought up two challenges both of which were related to professional skills development. The first challenge was that of time constraints; according to the interviewees there is not enough time to develop professional skills to an extent

<sup>2</sup> The co-operation between the Police University College and the University of Tampere has been close and excellent during the past 20 years and it is an illustration of the value and results of the academic-practitioner collaboration in the field of police education, science and research.

considered proper. Other concerns were related to mental models and motivation. However, it was concluded that at the organisational level the Police University College is a learning organisation. The training method was therefore successfully adopted and ready to use also in use of force –training and in other relevant police trainings (Gustafsberg, 2016).

Participation in the international research project as a researcher and in the development of the iPREP training programme was an excellent way to gather data and use it also for the PhD. The scientific articles, published with the research group, were included in the Doctoral dissertation. The research questions, led from the research data, in Gustafsberg's Doctoral dissertation were twofold:

- First, is it possible to significantly enhance situational awareness, decision making and overall performance by using the developed scientific method during interventions?
- Second, do improvements in individual resilience contribute to resilience and efficiency at an organisational level?

The point of departure in the research was that the personnel of an organisation should be able to rely on their mental resources facilitating flexibility, development and recovery from the strain of work, so as to meet the challenges they face in their organisational positions. These features of a functional individual will be referred to here as *resilience*. An organisation should offer an individual a functional environment where to apply, strengthen and develop one's human potential. Any straining work and the related mental burden cause a chain of various physiological changes with many effects on an individual's *situational awareness* and the ability to make decisions with ultimate effects being reflected on the quality of work and the effectiveness of the individual. These processes will in turn determine the reliability and relevance of the *situational picture* an organisation has at its disposal – the situational picture being a rather static tool of management and decision making and as such being dependent on the accuracy and quality of a more dynamic situational awareness of the individual.

Police work offers an excellent context for researching demanding work tasks having effects on these psychophysiological processes in the human being. A secondary derived research problem at an organisational

level focused on organisational resilience to find out whether we can influence resilience, i.e. the flexibility, efficiency and productivity of an organisation by enhancing the performance of individuals. Use of force by and also the safety of law enforcement personnel have been very much in the news while the very same themes are discussed and closely analyzed as problems of increasing concern inside the police organisation. The reported results, based on data gathered in situations simulating demanding police work, show that stress reactions may change the course of operations for better or worse depending partially on the body-mind state of involved law enforcement officers (Gustafsberg, 2018: 40-42).

The results of the research show that evidence-based policing in practice – at its best – means that evidence – i.e. innovations, results and findings of scientific research – are taken seriously and that they are important in the development of police training, police work and policing in general. The results of the research show that the scientific coaching method (iPREP) improves situational awareness and the quality of decision making of police officers during demanding operative situations. This is reflected as an increased performance capacity and efficiency of police operations. It was also shown that proper preparing for operations affected positively the physiological recovery from the strain of operations. The body was thus able to bounce back from the effects of stressors more efficiently when an individual officer was able to prepare in advance for upcoming operations. It was hence posited that careful planning and high-quality training based on scientific evidence have important roles in increasing the resilience of individual officers. At the organisational resilience level, it was considered important that training processes are developed on the basis of scientifically valid information and evidence, and that administrative practices and open-minded leaders are needed in order to achieve the operational objectives throughout the organisation (Gustafsberg, 2018: 123).

Following the definition of innovation as being 'the successful exploitation of new ideas' (Adams, Bessant & Phelps, 2006: 22), we argue that the training method developed is an innovation and that the innovation management process of the Police University College of Finland has been successful in integrating the innovation into the police training. Consequently, it can be argued that the enhancement of individual resilience

of the police officers through the training will enhance the organisational resilience of the Finnish police and the quality of the police services especially in demanding circumstances and in rapidly changing working environments.

The identifiable phases in the innovation management process were inputs management, knowledge management, strategic orientation, leadership (innovation strategy) and project management. Inputs management is concerned with the resourcing of innovation activities and includes factors ranging from finance, to human and physical resources, to generating new ideas. The general research and development (R&D) intensity has frequently been used as a measure of input (Adams, Bessant & Phelps, 2006: 26), but in our case inputs management in the process was not very closely connected to the actual RDI –unit of the Police University College. However, it shows the flexibility of the overall innovation management strategy that the innovations to be adopted – inputs – can also come from outside, like in our case, as a consequence of the CEPOL seminar networking and innovation communication process. Knowledge management category, in the framework of Adams, Bessant and Phelps (2006) includes information flows, and project management includes project efficiency, tools, communications and collaboration. All these are integral parts of the innovation management process of the Police University College.

## Conclusions

Although the evaluated innovation management process of the Police University College is a good example of evidence-based policing in practice in the context of the police training and education, the police in Finland lack a special innovation strategy. Innovations are discussed in other strategies but it can be argued that especially today, when the police have to face rapidly changing environments, new kinds of threats and increasing complexity in general, adaptive innovation strategy is needed in all police organisations. The most urgent and important are decisions regarding the use of technological innovations (for instance drones and artificial intelligence applications). Innovations strategy should include an adaptive and systematic innovation management process that covers all or most of the innovation management process framework categories. Adaptive innovation strategy is a critical success factor

to any organisation today, but it is extremely critical to police organisations. Central to this perspective is the idea of absorptive capacity which means the organisation's ability to absorb and put to use new knowledge, and involve an ability to recognize the value of new, external knowledge, assimilate it and apply it to organisational ends (Adams, Bessant & Phelps, 2006: 29).

The authors are aware of the critique of the evidence-based model(s) of mobilization and translation of knowledge into policing practice. Research-practice co-production of knowledge is recommended in most evidence-based policing strategies but there are limitations in the models. The limitations include narrow understanding of evidence and "elite science". The hierarchy of knowledge informed by a ranking of methodology, random control trials (RCTs) at the top, refer and illusory desire to attach certainty to police operations. Evidence-based policing is also recurrently interpreted as a means for promoting legitimacy, so that evidence is seen to serve organisational legitimacy in the first place (Crawford, 2017: 199-201). Maintaining a critical distance and autonomy has to be kept in mind in research-practice co-production.

Innovations and innovation management are important elements of development and improvement of police services in all countries. In the EU Security Research, Innovation and Education event (SRIEE2017) in Tallinn in November 2017, in one of the panels, Thierry Hartmann posed a question: "what kind of an organisation is innovative police organisation?" (Hartmann 2017). He listed many elements that are essential in innovation management:

- innovation is a part of daily job, not a task of specialists,
- we should identify individuals and teams that produce innovations,
- we should open space, open the door and discuss innovations; give the opportunity,
- we should turn top-down processes upside down to bottom-up processes,
- we should create a creative atmosphere: "Feel free to present ideas".

In the end of his talk, Thierry Hartmann pointed out that there should be better integration of innovations into the processes of policing and management, and finally, that we should be "innovative in management of innovation". The very same issues and questions

were dealt with also two weeks after the SRIEE2017 conference, in the CEPOL Police Science and Research Conference in Budapest, in the end of November 2017.

Innovation processes and management are critical success factors to all police organisations today but,

as shown in our analysis, leadership and strategic approach are also required: leadership that supports creative atmosphere, value scientific research and knowledge and facilitates innovation processes and strategies.

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