The Reorganisation of the Swedish Police with a Focus on the Police Command Centres – Effects of Centralisation

Abstract

In 2015, the Swedish Police Authority began a major reorganisation in which 21 counties were re-structured into one national police service. The underlying driving force was a demand for a more effective and efficient police service. The directive to the committee set up to investigate the need for a reorganisation focused on whether the existing organisation was an obstacle to achieving a well-functioning police service. However, there is considerable evidence that other factors were the main cause of deficiencies in the ability of the police service to perform its main tasks. Further, evidence suggests that these factors remain in place. Therefore, it is natural not to expect huge improvements simply as a result of a major police reorganisation. One way to achieve change would have been to influence the prevailing culture by restructuring the management layer, but this did not occur. The same individuals remained in higher management positions after the reorganisation. Some units that worked well were closed down, rather than implementing a solution that spread best practices. A cautionary principle had also been advocated, but this was not followed in the implementation. The new police service has a matrix organisation. Such an organisational structure counteracts the fundamental purpose of the reorganisation: to have a clearer chain of command and less administration. This paper focusses on the police command centres created by the reorganisation, as these are important for many of the police's core tasks, such as the ability to solve crimes and prevent problems. We suggest a technical solution that can make the police command centres work better using virtual technology. The findings are relevant for other emergency organisations that have centralised command centres and need to acquire more locally connected knowledge and closer interaction with society. We argue that the solution will reduce vulnerability to terrorist attacks.

Keywords: Swedish Police Reorganisation, Window-dressing, Command centres

Introduction

In recent decades, the public sector has faced severe challenges from resource shortages and budget cuts, caused by the worldwide financial crisis (Goldsmith & Eggers, 2004; O'Leary & Bingham, 2009). At the same time, societal challenges such as climate change, migration, terrorism, urbanisation, and an ageing population, have put enormous strain on emergency management organisations (Wankhade & Murphy, 2012). Of specific relevance to the police are also increasing socioeconomic differences and segregation, which have led to social unrest. Several strategies are available to handle external pressure. At a general level, the term "window-dressing" has been used by scholars to describe how some organisations act when legitimacy-building is in focus (Alvesson, 2013). Another strategy is to carry out reorganisation, and the Swedish Police is a clear example of an organisation that several times has referred to and conducted centralisations (Author, 2005; Author et al., 2012).

The Swedish Police has 28,000 employees, of which about 20,000 are police officers. In 2015, the Swedish Police underwent a major reorganisation that was the most extensive change of the organisation since 1965. Both before and after the reorganisation, the police organisation has been subject to criticism, for example that the ability to solve crime is too low, that the local presence is too low, that it fails to handle organised crime, etc. At the same time as the huge reorganisation was undertaken, other phenomena have influenced the police, such as recent migration movements, huge amounts of internet crime, and an increase in terrorist threats.

One way is to evaluate its impact on the police's ability to deal with certain basic tasks, such as the ability to solve crimes. Another way is to evaluate its impact in specific geographic areas, such as northern Sweden. It is also possible to evaluate the effects of the reorganisation on the ability to deal with a specific problem, such as drunk driving. Another way is to evaluate a specific function, such as regional command centres. This paper presents a retrospective analysis of the reorganisation of the Swedish Police, first in a more general perspective, and then with a particular focus on police command centres.

STUDY AIMS AND MOTIVATION

The aim of the work presented here was to investigate some of the effects of the centralisation in terms of:

- The impact of reduced locally connected knowledge
- The impact of a reduced close interaction with police officers and other actors in society
- The ability to use the available resources for different types of task (e.g. in major crises in which many actors are involved, in large dynamic tasks that can be defined as police matters, and in everyday events with a small numbers of patrols).

Following the investigation of effects, we suggest that the Swedish Police should use virtual command centres as one way to handle centralisation.

An in-depth analysis of the command centres is important, because they are fundamental to the ability of the police to deal with local problems, for how the police can handle some basic tasks such as solving crime, and for the police's ability to deal with general problems. The police has been organised in a centralist manner for many decades. This is also the case for command centres. In the early 2000s, command centres that had existed in many different areas in Sweden were centralised to one command centre in each county. In the reorganisation analysed here, the county-based command centres were further centralised to seven regional command centres. Centralisation reduces local knowledge about persons and places, which has been highlighted as a problem (Author, 2005), and criticism for similar effects has been levelled at similar organisations (Author, 2017). Therefore, it is interesting to study whether these arguments have specific relevance to the case of the police, or arise mainly as a form of resistance to change. Also, it may be fruitful to analyse and describe the centralisation in more general terms, because the process is considered to be a good way to improve governmental organisations (including emergency response organisations such as the police) not only in Sweden but in other countries.

The recommendation for virtual command centres is based on the observation that, in many emergency response organisations, large command centres can handle seldom but serious crisis situations, while maintaining a good ability to manage recurring tasks, where local knowledge and an local interaction are important. Thus, virtual command centres may enable flexible solutions to be adapted to handle different types of situation. They are less vulnerable to an attack or other problem connected to the physical position. We therefore argue that using virtual command centres could be relevant for police organisations in other countries, and that other emergency response organisations should also consider them.

Several research areas have been used as the theoretical framework for this article, because the empirical findings are multifaceted. The emphasis is on police research and organisation theory, but also communications theory, decision-making theory, and research into the role of ICT in emergency response are used.

Methods

This study is based on several evaluations and research studies concerning the Swedish Police. These included a time study on the way in which uniformed police officers spend their time (Author et al., 2011), how the police work with narcotics crime (Author, 2007; Author et al., 2011), how the police work to reduce traffic accidents (Author et al., 2008; Author, 2014; Author, 2015), how the police work with organized crimes (Author et al., 2014; Author et al., 2012), and various aspects of the police culture (Arntén-Andersson, 2013; Wieslander, 2016; Author et al., 2011; Author, 2013; Author, 2014; Author et al., 2017). The studies generated an insight into: 1) how the work at a command central influences police officers with different types of task, and 2) which functions must be considered when analysing the effect of the centralisation of the command centres. The study is based also on other organisation research, such as the importance of legitimacy work (e.g. Alvesson, 2013b; Meyer & Rowan, 1977). The interviews and participant observations in the present study were carried out between March 2016 and March 2017. It was a goal of the data collection to ensure that a high degree of triangulation was possible, contrasting different sources of data with each other (Denzin & Lincoln, 1998).

The primary author of this study collected all data. This researcher holds half-time employment as an active police officer. This provides good domain knowledge and good access to data, while introducing the risk of bias. The second author has a background as business and system analyst in the domain of emergency response, whose main task here was to reflect and ask critical questions. This researcher also brought a wider emergency response perspective to the work, which was intended as a way to reduce bias.

Interviews

Data for the study were collected from 83 planned interviews, 5 group interviews (see Bryman & Bell, 2007), and slightly more 100 informal social contacts (see Myers, 1999) at different hierarchical levels and in different geographical areas of the Swedish Police. In addition, 43 planned interviews were conducted with people outside the police, including security guards, mountain rescue personnel, and personnel from municipal fire departments. The definition of a "planned" interview in the context of this study is that the interview was booked in advance, that the interview was transcribed immediately on conclusion, and subsequently sent to the interviewee for comments. No template was used in the planned interviews because the aim was to capture as many viewpoints as possible, and the interviews are thus described as "unstructured". If, for instance, the interviewee expressed an opinion concerning the importance of local knowledge, the person was then asked to clarify and give concrete examples of what he or she meant. The aim was to form an understanding of the types of experience on which the various assumptions and conclusions were based. Planned interviews generally took between 15 and 25 minutes. Informal social contacts could be, for example, a discussion relevant to the study in a patrol car.

Interview subjects were selected by what is known as the "snowball selection" approach (Bryman & Bell, 2007). The interviewer received information about individuals who, it was thought, would be useful to interview. Interview subjects, in turn, gave further ideas about whom to contact. It was considered that this method of collecting data was the best method to gain a deep insight into the effects of the centralisation of command centres. A negative effect of snowball selection is that persons may recommend that other persons with the same opinion as themselves be interviewed. The authors thus made an effort to find people who had different ideas about conditions, in order to be

able to weigh various statements against each other and to interview personnel in different types of area in Sweden, and personnel on different hierarchical levels within the Swedish Police. One problem encountered when trying to reach persons to interview within the Swedish Police is a fear of being punished for levelling criticism against it (Author, 2019).

Participant observations

Participant observation involves a social interaction between the researchers and the informants, where the researcher can participate to various extents (Waddington, 2004). In this study, the work in a command centre in the north of Sweden and another in the capital of Sweden, Stockholm, was observed throughout an afternoon/evening by walking around in the command centres, listening and watching the work taking place. Also, participant observation of the interaction between patrols and command centres was performed during 22 shifts (each shift longer than 8 hours) in a patrol car in Stockholm. "Participant observation" here describes a process in which the researcher worked as a police officer in a patrol car, while making observations at the same time. Interaction between patrols, people who make calls, and command centres has also been observed by the researcher listening to four audio recordings from other areas of Sweden. Participant observation has both positive and negative aspects (Waddington, 2004). A negative factor during this study was that events happened during a shift that made it difficult to focus on phenomena relevant to the study. A positive factor is that this way of collecting data provides a good opportunity to build trust and to obtain interesting data. The researcher is physically present, meets and talks to people who call the command centres, tries to arrest a suspect in cooperation with personnel at the command centre, etc. In other words, the way in which the work of the command centre influences different matters is experienced in an extremely concrete manner. Another negative aspect is the potential for bias, i.e. that effects that the researcher has personally experienced may be given greater weight than experiences described by others.

Data analysis

Grounded theory (GT) (see Strauss & Corbin, 1999) was initially used to analyse the data, since it can find categories that can be used in further analyses. A thematic analysis in which previous research was used in combination with the categorisation of the data was then conducted (see Alvesson & Sköldberg, 2010; Bryman & Bell, 2007). The number of themes was limited to four to reduce overlap between them. This article is organised around these four themes.

Results and analysis

In this section, we present the results and analysis, with the four main themes that we have identified intertwined. We also present connections to previous research. We analyse the police command l centres themselves in brief summary description of the findings of an extensive report about command centres (see Author, 2017). The current study focusses on the effects linked to the command centres and reorganisation as a part of legitimacy-building activities. First, we analyse the effects of the large reorganisation of the Swedish Police on a general level, and then turn to the command and control centres.

Summary: What can we expect to be the effects of the Swedish Police reorganisation?

In 2012, the Swedish government appointed a committee which was responsible for:

> *"analysing whether the current Police organisation is an obstacle to the demands from the government to get higher quality, greater cost efficiency, increased flexibility and significantly improved results by the police"* (SOU 2012:13, p. 17)

Politicians were not satisfied with the performance of the police at the time. An established approach to addressing problems in an organisation is to analyse what is causing the problems (e.g. Goldkuhl & Röstlinger, 1988). The committee's task, however, was only to examine whether the organisation itself was an obstacle to achieving better results. Previous research had shown that the major causes of the poor performance of the Swedish Police were other factors than pure organizational structures. The factors include the command and control culture, window-dressing to hide problems, and a lack of ability and willingness to listen to research findings (for example, Ekman, 1999; Author, 2005; Arntén-Andersson, 2013; Wennström, 2014; Author et al., 2017). It is important to note that because the main reasons for the poor results were not primarily connected to the organisation at the time, it could not be expected that reorganisation would improve the performance of the police. On 1 January 2015, the Swedish Police underwent a major reorganisation in which the 21 police departments were formed into a national police service. One part of this reorganisation was to centralize the command centres. An initial answer to the question about what we expected to be the effects of the Swedish Police's reorganisation is thus: *very limited positive effects*.

However, the Swedish Police has given rise to huge expectations. The purpose of organisational change is often to make an organisation more legitimate in the eyes of external stakeholders (see, for example, Meyer & Rowan, 1977; Powell & Dimmaggio, 1991). An organisational change is rewarding from a legitimacy-building aspect. It is possible to ward off criticism of an organisation by referring to an upcoming reorganisation as the solution to the subject of the criticism (Author, 2005; Alvesson, 2013). This technique has been commonly used in the current case (one example of which are comments made in national radio programs, Saarinen, 2014). References to the police reorganisation have been made in such a way that it was easy to gain the impression that the positive effects would occur at the beginning of 2015 when "the organisational shackles will be removed" (Sjögren, 2014). The chief of police stated before the reorganisation was initiated that positive effects of the new police organisation "will be noticed fairly soon" (Eichinger, R. & Zöllner , 2014). The timing of the expected effect has since then been continually postponed (see, for example, national television, Kasurinen, 2015; Mannheimer, 2017, and national newspaper Wierup, 2016).

One important objective of the new police organisation was to increase its local presence and its ability to adapt its work to local needs. However, the dominating development trend in the Swedish Police since 1965 (when a huge reorganisation took place) has been centralisation. The 1965 reorganisation led quite quickly to a discussion about the need to get closer to citizens, as it was felt that the distance to them had increased (Ds Ju 1973:5, p. 34). The demand for a local police presence has been expressed on many occasions, and increasingly so as time has passed (SOU 1979:6; SOU 1985:62; SOU 2001:87; Länsstyrelsen i Stockholms län (1993); SOU 2012:13). Despite these repeated expressions, the development of the Swedish Police has, in general, been in the opposite direction. The reorganisation of the Danish police force provides another example: local knowledge and contact between the police and citizens worsened – completely contrary to the purpose of the reform (Balvig, Holmberg & Nielsen, 2011). There are few indications that the effect of the 2015 reorganisation of the police would be different in Sweden. Quist and Fransson, among others, have examined the effects of this type of organisational change in other Swedish authorities:

> *"Through a unified concept, authorities choose to ignore the cultural and demographic differences within the country, which means that citizens have different needs. The nationalisation of authorities has given the authorities the power to ignore the fact that different conditions may require different solutions. With decentralised responsibility*

and mandate there existed formerly a greater ability to manage local variation" (Quist and Fransson, 2014, page 70).

The new police organisation

The new organisation has one more level than the old organisation – police regions (Figure 1). This level of hierarchy lies between the former county forces and the chief of police. Each region is responsible for a command centre.

National police chief	1
Police regions	7
Police districts	27
Local police districts	95

Figure 1. The new police organisation

Statistics from IT systems show that today, four years after the reorganisation, the number of employees working with typical police matters (such as investigators, in a patrol car, or similar) has decreased by more than 700 (June 2019). This has occurred even though the total number of employees has increased. Administration and management have grown. Organisational charts, the names of functions observed on doors, information about completed and ongoing recruitment processes, interviews with persons at various levels of the hierarchy, and statements by employees in both traditional and social media strongly indicate that the number of persons working with administration and management is higher than the statistics show.

Moreover, the new police organisation has been designed as a matrix organisation. Some geographical responsibilities have been defined, while some departments at a national level have a functional responsibility. Mintzberg (1993) has shown that a large centrally based administration has a tendency to generate more administration by itself. Decision-making in a matrix organization frequently results in discussions on both small and large matters, and this may significantly increase the administrative costs of an organisation (Mintzberg, 1993; see also Knight, 1976). Quist and Fransson (2014) further describe the difficulty of dealing with goal conflicts in a matrix organisation. Among the problems that they highlight is the role conflict that employees experience when signals from one manager conflict with signals from other managers. "Employees are unsure who is in charge and feel that they get squeezed" (Quist & Fransson, 2014, p. 95). This problem has become apparent in the new police organisation, where a recurrent complaint from chiefs in the interviews is that it is necessary to obtain clearance from the national departments even in small matters. The Human Resources department has a strong position. We conclude that the new organisation has not delivered the original intentions of the reorganisation (less administration, more clarity, and easier decision-making), in fact, quite the contrary.

The reorganisation of the Swedish Police has brought benefits, for example in terms of coordinating purchasing, the ability to reallocate resources, and the ability to create uniformity. At the same time, the organisational change in itself did not automatically lead to uniformity, and four years after it was carried out significant differences remain in the ways in which various matters are handled. For example, the way in which incoming and outgoing information to patrols is handled differs between command centres.

Instead of preserving organisational units that worked well in the old organisation and spreading the way that they organised their work to other units, nearly all organisational units have been reorganised. The way that the police has chosen to implement the new organisation is known as "business process re-engineering (BPR)". This involves a total restructuring in which the old is thrown out and everything is rebuilt from scratch (Renzhog, 1998). Well-known problems of this type of reorganisation are that it undermines the personnel perspective, that things that work well are thrown out, that it requires a large financial input, and that it is accompanied by risks (Rentzhog, 1998; Jarrar & Aspinwall, 1999). In the change process, the main initial force and focus have, to a high degree, resulted in merely drawing organisational charts and determining where various officials will be placed. The actual content of the work of the police has been eclipsed. This is clearly the case during the creation of the new command centres.

It is natural that some time must pass before the effects of a major reorganisation come through, and it is natural that problems arise. Further, some employees resist changes (see, for example, Bruzelius & Skärvad, 2012). For a short period of time after the reorganisation, it was therefore acceptable to say that positive effects would come later. However, as time passed, the pressure to show positive results grew. The Swedish Police has to a high extent used what is known as "window-dressing", in which the main focus is to create a good impression of how something works, regardless of how it works in reality (Author, 2018a, 2018b). Other police forces in other countries, such as the US, England and France, also use this technique (Eterno & Silverman, 2012; BBC, 2013; RFI, 2014).

A major reorganisation causes a loss of production, and it is probable that the decline in results will be stabilised and reversed after a while. It may then be tempting for police officials and politicians to spread the message that the reorganisation is beginning to have an effect, despite the result not yet having reached the level at which it had been some years before the reorganisation, and despite this type of result having been an important reason for the organisational changes (Author, 2014). This is what happened (see, for example, Polisen, 2017). Another technique used to give the impression that the reorganisation has been successful is to avoid evaluating the result relative to the putative situation under the old organisation, if it had received the same resources as the new organisation. Furthermore, information generated by information and communications technology (ICT),often in colourful, presentable, graphical arrangements, gives the impression of being accurate and reliable there is a risk of defective data quality. (Author, 2015b). This was the case when an earlier centralisation of command centres was evaluated (Author, 2001), and the same effect has again occurred (Author, 2017). It is easy to use ICT in impression-managing strategies (Author, 2015a). Huge expectations of the effect of the reorganisation, while at the same time the reorganisation had not targeted the most acute needs for change, increased the demand for window-dressing. There are indications that operators at command centres receive orders to register matters in a certain way that makes the situation look better. In the long-term perspective, however, a poorly functioning police organisation is difficult to cover up using window-dressing (Author, 2014), even if the organisation receives help from other authorities and researchers (see Author et al., 2017). Window-dressing is counterproductive in the long term (Author, 2013; Author, 2014; Author, 2015a; 2015b; Author et al., 2017): the end result is an organisation that does not function in an appropriate way. This has been the result of the centralisation of command centres (Author, 2017).

People have a considerable ability to adapt, and this will eventually mean that criticism of the police's establishment of large command centres will fade in time. New officers will not be able to compare the present situation with the previous one. Furthermore, the intensity of criticism is limited by the widespread fear that delivering criticism within the police will lead to sanctions (see, for example, Wieslander, 2016; Author, 2019). These circumstances imply that there is a risk that insufficient pressure will be exerted to change the way of working at the command centres.

Several researchers have pointed out that there is a great need to change the current leadership culture of the Swedish Police (Arntén-Andersson, 2013; Author, 2005; Ekman, 1999; Wieslander, 2016). A major reorganisation creates opportunities to contribute to a change in the organisational culture. However, these opportunities were not taken when the Swedish Police was restructured. The highest and most central positions in the new organisation were basically still held by the same persons as before, even if they had changed positions. It is not probable that a person who has had a certain leadership style and approach for 10, 20 or maybe 30 years will, firstly, realise that the way they act should change, secondly, be willing to undertake the change, and finally, be able to change. What is known as "responsibility effects" (see, for example, Drummond, 2014; Schulz-Hardt, Thurow-Kröning & Frey, 2009) make it difficult for the persons who pushed through the centralisation of command centres to accept that it is necessary to act to mitigate the negative consequences.

Police command centres from 21 centres to 7

No well-grounded analysis that forms the basis for the decision to create seven regional command centres in the Swedish Police organisation exists (Author, 2017). Further, several other important decisions about how to design the police also are based on inadequate foundations (Author, 2014). Other researchers have found that this is a common phenomenon for reorganisations taken with a business process re-engineering approach, where the focus is to carry out radical changes at the expense of a proper assessment of the existing processes (Jarrar & Aspinwall, 1999). Another important reason for the decisions to reduce the number of command centers from 21 to seven, without having carried out a well-grounded analysis, arose from the influence of some key figures on the decision-making process. These key figures may have been convinced that centralisation of the command centres was a good solution, but several employees suggested that the goal for some individuals may have been other: it was probable that these individuals would gain a more important position in the new police organisation. It is possible to identify similar behaviours and factors in the decision-making process that led to centralised command centres as were observed in the process that led to the decision to start (and continue) the catastrophic IT project, PUST (Author, 2020).

An important starting point for the creation of regional command centres was to make activity in the centres as uniform as possible. However, it is a huge challenge to achieve uniformity, as the regions are considerably different (Author, 2017). Given the great differences between the regions and the completely different conditions in them, we believe that it is more important to create the conditions required for flexible and situation-specific solutions, rather than uniformity. During the early 2000s, the creation of 21 county command centres within the Police was a profound centralisation process. It is possible to draw clear parallels between the introduction of these county command centres and the formation of regional command centres that started in 2015. In both cases, the decisions were characterised by a strong determination to push through the changes, even though the foundation on which the decisions were based was deficient. In both cases, managers were unwilling to listen to signals that the selected solution would be detrimental to the improvement of the police (Author, 2005; Author, 2014; Author, 2017).

A common argument against the centralisation of command centres has been that they are "the heart" of a police station. Another argument is the loss of the local presence and knowledge. Some examples:

"The centralisation of command centers led to the loss of a lot of important and natural contact with actors in the local community" (interview with police officer, Jan. 2017).

"I don't call the police anymore to give tips" (interview with a security guard, Nov. 2016).

"The loss of cooperation due to the centralisation of the police command centers made society inferior in the use of their total resources in an effective way to give the third party appropriate help" (interview with a chief at a fire department, Nov. 2016).

However, centralisation of the command centres had some positive effects. It has made it easier to coordinate tasks in which several police districts are involved, and to allocate resources in some types of case (Author, 2017). These positive effects have been highlighted by the management, while attention to the negative effects has, for the most part, been supressed. This article gives an extensive presentation of the negative effects of the centralisation of command centres, grouped into four themes:

- Increased distance hampers effective communication.
- A reduction in the local knowledge of individuals has major implications.
- Inadequate local and geographical knowledge hampers work.
- A local physical presence is important.

Increased distance hampers effective communication

Communication is often believed to be more effective than it is, i.e. there is often an assumption that the message that is sent is identical to the message that is received, and that communication is simply about encoding and decoding messages (Heide et al., 2005). Two main schools in research about communication are the *process* school and the *semantic* school (Fiske, 1997). To put it simply, the process school examines how a transmitter encodes information, and how a receiver decodes a message. This school analyses communication problems by locating where the mistakes occurred in the process. The semantic school, in contrast, sees communication as the creation and sharing of meaning, where the message combines with the participants to create meaning (see Fiske, 1997; Heide et al., 2005). Both schools assume that the more codes that it is possible to use in the message, the better the communication is. It is not just about what is expressed in words, but about also other pathways of communication, such as gestures, irony, etc. It is important for communication between two people that they have a rich and developed personal common foundation, which can be created by the people having shared experiences (Clark, 1996). Furthermore, it has been claimed that informal communication, often referred to as "corridor chatter", is important in building trust and maintaining the social relationships that are the basis of cooperation, in coordinating work, and creating an understanding of the local context (Damian & Wozghi, 2003). It is easier for an operator with local knowledge to intercept and understand the meaning of some information, and to realise that some of the details are important. The staff in the seven large command centres now normally work with large geographical areas and have contact with many people, which makes it difficult to build the trust that can facilitate collaboration at a distance, not only with external actors but also with the police's own personnel. Further, feedback is a very important part of communication. It can be achieved by words, and through non-verbal expressions (Allwood et al., 1992). Face-to-face communication is superior in creating trust and efficient cooperation (Bos et al., 2002). The centralisation of the command centers has increased the physical distance between, for example, police officers in patrol cars and operators at the command centres. The effects identified by Allwood (1992) have been observed in this study, cooperation has become poorer, and knowledge of the local context is lower (Author, 2017).

A reduction in the local knowledge of individuals has major implications

During nearly every formal and informal interview with external actors, such as security guards, personnel at petrol filling stations and civil volunteers who often called the police, it was mentioned that the centralisation of command centres has resulted in the operators' knowledge about personnel, callers, external actors and criminals had deteriorated. This was mentioned also in interviews with police officers working in the field.

"Earlier [...] one could just say that 'the one with the green jacket is here' and they knew who it was. Now [...] it feels like a big project to give tips. First of all, it takes longer to get in contact with the command centres, and then you have to explain so much to the operator compared to before when operators had knowledge of the area and the people. When you work alone at night, you can't spend time on this" (employee at an all-night petrol station, Oct. 2016).

It also became clear during interviews, and during participant observations, that the centralisation has had major consequences for, among other things, efficiently using resources, solving crimes, preventing crime, solving problems, and providing good victim support. Centralisation has often had negative consequences because there is a huge variation in the way that police officers work (see, for example, Author et al., 2012b; Reiner, 2010). The motivation and knowledge of police officers are important factors that determine how they act. These factors are not static, and vary in both the long and short terms. Knowledge of the patrols' interest and knowledge has a profound effect on the ability to lead the work in such a way that the available resources are used and managed in an appropriate manner. Both operators who have worked at a small command centre and police officers working at the field agreed that:

"To send an officer with the right motivation and skill is very important for how the task is done" (interview with an operator, Mar. 2016).

This may involve, for example, choosing a particular patrol because it is skilled in creating confidence and trust, which can be crucial to the progress of some cases. Some patrols have high problem-solving skills, which makes it particularly beneficial to send them to certain types of case. Some patrols can juggle several tasks at the same time, while others become stressed. Familiarity with the patrols allows operators to select which patrols can be given cases to deal with on their way to or from another case, and which patrols are best given one case at a time.

Reasons other than short-term operational aspects may influence the choice to send a specific patrol to a case: it might be important for the well-being of a particular officer. Police officers in a patrol may have had a particularly tough case on their previous shift. Someone who recently lost a loved one may not be the best person to send to a death or to notify a death, etc. Moreover, a police officer may find it difficult to work overtime for personal reasons, such as the need to collect children from day-care. An operator may, therefore, choose another patrol if there is a risk that an action generates overtime, or the operator may prepare to change the patrol as soon as possible. This type of consideration is of great importance for personnel, and can be crucial to whether a police officer continues to work on patrol duty. It is much more difficult to take such matters into consideration in the large command centres. Furthermore, the formation of the large command centres has led to police officers becoming anonymous for the operators. Police officers expressed in the interviews a feeling that:

"We are only seen as an easily replaceable batch number" (interview with a Police officer, Oct. 2016).

This affects motivation, which, as mentioned earlier, is critical to job performance (Author, 2005).

In a similar way, the operators at the large command centres have become more anonymous than they were when working at smaller command centres. The interviews have made it clear that this negatively affects their well-being and motivation in a way that is similar to that of the police officers in patrol

cars. Staff turnover is considerably higher in the large command centres than it was in the smaller ones. One reason that was highlighted in the interviews is that opportunities for development are perceived to be limited at large command centres. Another reason is the intention of using the large command centres in a call-centre solution. This has meant that operators do not feel the same degree of involvement as they did when the centres were located locally. Both the greater variety of work and the close contact with on-street personnel were positive aspects of the locally based command centres. High employee turnover and the location of the regional command centres in areas with high competition for labour have led to problems in recruitment.

Another consideration is knowledge about callers. This may be useful when assessing the credibility of a caller and the seriousness of a situation. An operator's knowledge of criminals may provide, on the basis of a modus, description or nickname, an idea of who may be involved in a crime. This can increase the probability of catching an offender by using the patrols in a particular manner.

"When people make a call and mention a nickname, the assessment becomes better if you know the nickname. An operator can make the estimation whether this person is someone where is a high risk of breaking in or buying drugs, etc., so that the priority can be right" (interview with a police officer, Mar. 2016).

During interviews and participant observations, it has been clear that the centralisation has had a negative impact on, for example, the ability to catch drunk drivers.

Furthermore, if the personnel in the command centres have knowledge about the police officers and external actors, other solutions than sending a police patrol to handle a case can be considered. In rural areas where there are few patrols and long distances, it is sometimes necessary to make difficult choices, which may not occur as frequently when a command centre has a large number of patrols at its disposal. Local knowledge of police personnel may mean also that the operators can answer questions about the factors in a specific area. This may involve getting help to evaluate information, such as the risk of a problem escalating or a suspect's tendency to use violence. It may also involve police officers using personal contacts, for example to obtain a key for a boom gate. Also, in this respect, interviews showed that the centralisation has had negative consequences because the interaction between operators and police officers in the field, and the interaction between operators and external actors in the local society, are not the same as before.

Inadequate local and geographical knowledge hampers work

Both the interviews and the participant observations showed that callers under stress may use the former name of an object or an address, what a place is called in "popular parlance" or references that are temporary, such as "where the roadworks are" or "close to the mobile crane". In some cases, it may be crucial that an operator is able to comprehend an address quickly, for example if a person is exposed to an ongoing crime that involves a high risk that the call will be interrupted, or if there is poor mobile phone coverage in an area. The centralisation of command centres has compromised the operators' ability to interpret an address specification quickly and accurately. Furthermore, the centralisation has led to operators having to manage work in larger areas. This increases the risk of mistakes, as there are more objects and places with the same or similar names. An operator with local knowledge will find it easier to understand references and to identify the place being referred to.

Other circumstances in which local knowledge is important arise when it is necessary to compare the times taken to deal with a matter in alternative ways. The nearest patrol may not have the shortest time to reach a place. It can be difficult to determine the driving time from maps alone. Roads that, for example, appear on a map to be of the same quality may have entirely different road qualities. Further,

some roads may be impassable in winter. Similarly, local knowledge helps an operator to figure out possible and likely escape routes. Initially, it is often an operator who orders patrols to take positions when a fleeing perpetrator is to be caught. Interviews and participant observations showed that the large command centres have had negative consequences for the local knowledge of important geographic details, such as the failure of an operator to understand the direction of flight:

"It is a great difference if an operator has local knowledge or not and such a skill is often an important prerequisite if we want success with our actions to catch a suspect trying to escape" (interview with police officer, Oct. 2016).

An operator with local knowledge may also know, for example, that the site of a traffic accident needs more than one patrol to attend, to make it safe. Likewise, when officers are called to a given address, it can be difficult or take too long to discover from ICT that this is the site of serious conflict between neighbours, families or groups. Local knowledge is very important for the police officers' safety. It is not uncommon that patrols lack local knowledge. Further, some interviews revealed that under stress and with a focus on what is being said on the radio and how to handle a specific case, it can be valuable to have information from the operator about how to get to the right address, even if the patrol involved has local knowledge.

A local physical presence is important

When command centres have a local physical presence, the personnel working there are part of the local community. Interviews with personnel working at command centres suggested that this influences how much time, effort and energy they invest into solving problems and cases. Furthermore, there are more opportunities to obtain interesting information, because people know who the operators are and may tell them things when meeting in, for example, a shop, at football training, etc. Also, the operators make their own observations outside of working hours.

The physical location of a command centre is thus important for the level of service the patrols receive, and plays a part in how the personnel, regardless of level or type of work, show consideration for one another and an eagerness for the work to proceed as smoothly as possible. This involves an operator doing what he or she can to make it easier for a patrol. It may also mean that, for instance, a patrol can act to deal with a case rapidly, if they know that an operator is under pressure with many cases waiting. It may happen that a patrol, on its own initiative, announces that it is on its way to or from another case, and can take a case that the operator has mentioned on the radio. During the interviews both operators and police officers working in the field described ways in which an operator or duty officer can show their consideration for colleagues. An example is contacting colleagues to see how they are feeling following the completion of a case, if the case has been emotionally stressful. We conclude that a local presence and small command centre are, in this perspective, advantageous. Physical closeness also makes it easier to describe a location or events. This is not only positive for developing cooperation (see Bos et al., 2002), but can also make it easier to process emotions (Allwood et al., 1992). Closeness between operators and external staff will also make it easier to be part of the same debriefing after emotionally difficult situations, and will improve the cooperation between the police officers and the operators.

"A person said he had committed a serious crime. The couple has a little daughter. I thought 'Is the daughter also dead?'. It was a great relief when the patrol saw that the little child was breathing. When the patrol came back, we could talk about it. For me and the other operators, it was very important to be able to sit down with patrols and have debriefings. [...] I was a civil servant, and there was much I had to learn about police issues, and just the dialogue that could be created by the patrol coming in and sitting, and talking in different contexts was very important." (interview with an operator who had worked in small command centre, Feb. 2016).

Further, interviews with external actors, former operators and police officers made it clear that it is important that operators have a local presence, especially when interacting with the local community. Firstly, an operator must know whom to contact, and established channels and personal relationships may help to provide such knowledge. Both police officers and external actors, such as security guards and members of mountain rescue teams, pointed out that a good relationship with employees at a command centre increases one's willingness to say yes when asked for help. Operators at a small command centre had fewer patrols to handle than those in large command centres. Interviews show that operators at small control centres plan how to allocate patrols, and were accustomed to use as much discretion as possible when dealing with other incoming tasks.

Locally based command centres also provide good conditions for the workers not only to know particular details, but also to have good opportunities to put these specific details into the right context. As the personnel working on street duty and the employees at the command centre knew each other, it was easy for them to make contact and share tips, feelings and thoughts. A locally based command centre with a closeness between different categories of staff was also beneficial, as valuable dialogues arose that opened opportunities to "put two and two together". All this helped to create favourable conditions to clear up and prevent crimes. Interviews and participant observations showed that the centralisation of control centres has had major negative effects in this regard.

Proposal to create virtual command centres

The presentation above has focussed on the negative effects of the centralisation of command centres. As mentioned earlier, the reorganisation has also had some positive effects. Both interviews and participant observations show that the centralisation has increased the ability to handle cases that can be defined as dynamic and complex, where many patrols are involved, and often external actors such as medical units and fire departments. The centralisation has also generated a higher flexibility in the use of patrols from different areas. Is it possible to create a solution that combines both the positive effects of centralisation and the positive effects of local knowledge and presence?

Virtual technology makes it possible to create a feeling of sitting in a particular place, which, in reality, is somewhere else. Virtual technology (Townsend, DeMarie & Hendrickson, 1998) would make it possible for the Police Authority to have central management of the command centres, while the technology creates favourable conditions in which to build local knowledge. We envisage a solution in which a regional command centre is located at a physical location in each region, but that not all personnel who are included in this centre are located at the same site. We thus suggest that a solution using virtual regional command centres would make it possible to retain the current fundamental organisational concept, while at the same time creating clusters that are advantageous for operations, both in the short and long terms. Such a solution can handle larger/dynamic issues, while at the same time providing good opportunities to have detailed local knowledge and a local presence. This can help to increase the ability of the police to solve and prevent crimes, save lives and reduce injury outcomes, and it would enable the police to handle other types of basic tasks better. A solution that uses virtual regional command centres would also make it easier to retain and recruit staff at the regional command centres, because the work environment can be made more appealing. Further, competition for labour would be lower than it now is in many areas where the region centrals are physically located. Many other actors, such as the emergency services, county councils and county administrative boards are not organised in the same way as the police. The use of virtual technology would improve the ability to handle large and serious situations in which close cooperation with other actors is vital (Author, 2017).

Discussion

Natural disasters, humanitarian catastrophes, wars, pandemics, the threat from extremist groups, and the effects of growing socio-economical gaps and segregation put a huge strain on emergency response organisations in modern societies (Ingold & Fischer, 2014; Johnston & Finegood, 2015). At the same time, these organisations must deal with frequent emergencies at a smaller scale, the consequences of urbanization, de-population of rural areas and aging populations, while facing budgetary cuts and a shortage of resources in the public sector. The reorganisation of the Swedish Police in 2015 was a continuation of the centralism philosophy that had been prevalent for several decades, in which the police command centres were concentrated to fewer locations. This is not unique for the Swedish Police. The same thing has happened in Norway and the trend in several other European countries, for example Denmark, points in the same direction. Centralisation of command centres has also been popular in other types of emergency response organisation (Stenberg, 2016).

A strong demand has long been placed on the Swedish Police to increase its local presence, but the centralisation of the command centers goes in the opposite direction. It affects the police's ability to solve crime and to use the limited resources efficiently. The risk is higher that people will deal with crime themselves without contacting the police, which is a huge problem for a society. Large centralized command centres also give a poorer working environment both for operators and for police officers in the field. The police has a problem with high employee turnover. The centralisation of command centres has, on the other hand, also had positive effects, such as giving a higher flexibility to use patrols from different areas. However, the work presented here shows that the positive effects have been overestimated and the negative effects have been supressed (Author, 2017; see also Author et al., 2017). One strong reason for this is that qualitative factors receive less priority than quantitative factors. This generates what is known as "window-dressing", in which looking good is more in focus than being good (Author et al., 2017; Author, 2015a; Entiro & Silverman, 2012). The reorganisation of the Swedish Police can be seen as window-dressing carried out in order to improve legitimacy. Implementation of the reorganisation resulted in a loss of production. In addition, the way that the reorganisation was implemented has made it more difficult to achieve well-functioning policing, because the focus has been mostly on organizational charts and not on the content of the operations. The Swedish Police, however, has successfully made its message heard: it needs more money. It has done this, rather than explaining how it uses the more than SEK 20 billion allocated to it each year. The way in which the Swedish Police organises its command centres can be used to clarify the phenomenon.

The decision-support information, evaluation, and impact assessments of the centralization of command centres have been substandard in the police organization, and in some cases non-existent (Author, 2017). The centralization of command centers evolved during two decades, and not only made operations more expensive, but also (to a large extent) resulted in the police being less able to meet its core missions. This development is not surprising for some observers, since the Swedish Police is very far from being a learning organization (see, e.g., Arntén-Andersson, 2013). Other observers may find it strange that the police strongly requests more money while not striving to organize its activities to use the public resources

assigned to it efficiently. Indeed – there is a risk that the police will choose to organize the command centres in a way that reduces the possibilities to solve and prevent crimes. The reorganisation also counteracts a fundamental objective of the major reorganisation of the police – to get closer to the citizens. Research explains why some politicians and management do not acknowledge the need to listen to suggestions to improve the police, such as suggestions that deal with problems associated with the way the command centres are organised. Decision-makers often focus on positive indicators when they evaluate the outcome of a process of change (Sleesman et al., 2012).

The reorganisation has taken place and cannot, of course, be reversed. However, the work presented here adds to existing police research by pointing out the perceived negative consequences as a potential "learning example" for police organisations in other countries that are considering similar centralisation. The work also leads to a suggestion of how the police can use modern virtual technology to retain the positive factors that the centralisation of the command centres has generated (including flexibility and better conditions in which to handle dynamic situations), while at the same time creating a more local presence and knowledge about local contexts. The distribution of operators to more locations using virtual technology will also make the organisation less vulnerable to, for example, terrorist attacks, since the command centres can immediately deploy additional personnel from geographical areas that are not exposed to the attacks. The suggested solution will also increase the ability for cross-organisation interactions, as will be described below.

How to handle the effects of centralization in a wider emergency-response perspective

The example of how the Swedish Police handled their command centres is only one of many examples of an inability to implement methods and organisational forms that are in line with recommendations that are based on research results (Author, 2014). The Swedish Police is not in any way unique for police organisations in this respect (Waddington, 1999; Weisbird & Eck, 2004; Klein & Maxson, 2006). It was common in the Swedish Police that decision-makers ignored or belittled arguments against the centralisation of command centers. This may be from suspicion about the effects of centralisation, but it may also be a form of legitimacy-building and a desire to follow modern trends (see Alvesson, 2013; Meyer and Rowan, 1977).

In a wider emergency-response perspective, similar trends of centralisation are being followed around the world, and are usually associated with financial crisis, budget cutbacks and a general dismantling of the public sector (Ramsell, Pilemalm, Andersson & Granberg, 2017). In Sweden, one of the bodies it has affected is the Swedish municipal rescue services, where local fire stations have been closed down and municipal rescue services have been merged to form larger regional federations. The Swedish Public Services Answering Point (PSAP), which is responsible for handling all incoming 112 alarms and dispatching the proper resources, has also undergone a similar centralisation, and it has also here been reported that it has led to a similar loss of local knowledge, for example when guiding resources to the incident site (Yousefi Mojir & Pilemalm, 2014). As in the case with the police, the consequences can be devastating, sometimes even leading to loss of life. Recent research has shown that the changes in Swedish emergency response in general have led to loss of local knowledge, lack

of resources, and longer response times, as rescue services personnel and alarm operators are dispersed over larger geographical areas (Pilemalm et al., 2013).

Several approaches are being used to partly compensate for the deficiencies in societal systems and to create redundancy in them. The approaches include the use of on-patrol semi-professionals (such as security guards, nurses, taxi-drivers, technicians) or civil volunteers for the first response, if they are near the emergency site (Ramsell, Andersson, Grahnberg, Pilemalm, 2019). It is, thus, difficult to overlook the fact that the centralisation of emergency-response organizations leads to longer distances between these organisations and the citizens they are supposed to support. The distances to professionals and semi-professionals with whom the command centres are often in contact are also greater. "Distance" in this case is used to mean not only physical distance but also what might be termed "psychological distance" – the feeling that the emergency services are "not here, not now".

One implication of the results presented here is that it is important to have a critical approach towards any tendency to organize a practice in a specific way that may arise from a desire to look good, rather than arising from well-grounded decisions. A focus on looking good might have negative effects on being good (Author et al., 2017). As mentioned above, important factors were not taken into account when the decision to centralise was taken, an example of which is that operators placed at local police stations often did more that simply being operators. Therefore, centralization did not reduce the need of staff at local police stations in the way that the decision-makers had intended. The central command organization needs an overcapacity to handle peaks. When command centers were located at local police stations, persons who normally worked with other types of task could help to handle peaks. Further, it was necessary to build up a separate administration and a hierarchy when the command centres were centralised. One important goal of the centralization was to reduce costs, but these have instead increased (Author, 2017).

Another implication of the results presented here is that it is important to avoid focussing on information generated from ICT when evaluating the effects of a centralisation. Output from ICT has played a central role in follow-up activities after the centralization. It is easy to use ICT in impression-management strategies (Author, 2015). The focus on the output from ICT has had a negative impact on information quality, both before and after decisions to centralize command centers in the Swedish Police (Author, 2001; 2005; 2017).

For the police, as for all contemporary organisations, modern ICT has enabled new ways of working and has compensated to a certain extent for the decrease in public sector resources, and for the effects of centralisation. In the case of emergency response, such technology as mobile communication and GPS has enabled dynamic resource allocation and decision-support systems in which the response unit closest to an emergency (with adequate capacity to handle it) is dispatched instead of, as previously, static fire units. The use of ICT has also removed the need for semi-professionals and volunteers to wait for professional resources to arrive (Pilemalm, 2018). This study indicates that it is possible to use virtual technology to create virtual command centers. Virtual technology would make it possible to have a

physically decentralized organization, with a virtually centralized organization. Virtual technology would make it possible to construct clusters adapted to a specific emergency-response situation. A close cooperation between the command centers of emergency organisations is positive for the emergency-response capacity, effectiveness and efficient (Yousefi Mojir & Pilemalm, 2014). Virtual technology would make it close cooperation between different emergency response organizations possible.

Reliability

The fact that one of the article authors is a police officer can be both a disadvantage and an advantage when interpreting the data that form the basis of the conclusions in this article. However, the other two authors have a completely different background, and this will reduce the effects of bias. Further, the conclusions are supported by research into other organizations than the Swedish Police. The article author who is a police officer has not been placed at the police command centres, nor has any other close ties to them. However, some people who have been interviewed have had ties to the command centers, and this may have affected the data. Another factor that may have affected the data is the great fear within the police related to voicing criticism.

Most of the conclusions presented here have been presented in a Swedish research report. Comments from employees at different hierarchical levels in the Swedish Police after the publication of the report confirm that the conclusions are reliable. Comments from persons outside the Swedish Police have also pointed in the same direction.

Conclusions and future work

We have analysed the effects of the physical centralisation of personnel to huge command centres. The most important findings are:

- A physical centralisation can have positive effects for the possibility to coordinate tasks that comprise several police districts.
- A physical centralisation can have positive effects for some types of task, and improve how resources are allocated.
- An increased distance between the control centres and police officers hampers effective communication. As the staff in the large command centres normally work with large geographical areas and have contact with many people, it is difficult for them to, among other things, build the trust that can facilitate collaboration at a distance, both with external actors and own personnel.

- A reduction in the local knowledge possessed by individuals in the command centres has major implications. It makes it more difficult to use the resources efficiently, which reduces the effectiveness of the personnel. Further, their job satisfaction becomes lower.

- Inadequate local and geographical knowledge hampers work. The centralisation of command centres has compromised the ability of operators to interpret an address specification quickly and accurately, and their ability to compare alternative ways to handle cases.

- A local physical presence is important for many reasons. The physical location of a command centre is important for the level of service that the patrols receive, and also plays a part in how the personnel, regardless of level or type of work, show consideration to one another and an eagerness for the work to proceed as smoothly as possible. An operator may, for example, do anything possible to make it easier for a patrol. Conversely, a patrol may speed up a case if it knows that an operator is under pressure, with many cases queued.

- It might be possible to use VR to have a physically decentralized organization, with a virtual centralized organization.

There is a risk that the negative effects described above will be ignored when it is strongly believed that a centralization of the communication activities will make the organization more effective and efficient. The type of research that is presented in this article is important, because it can reveal a management alignment that is based more on belief than on knowledge. The practical implication is that the study is an important input to an ongoing internal audit in the Swedish Police concerning how the command centers should be organized.

An action research study has just been started in cooperation with commercial companies and authorities. The aim of the study is to develop and analyse how VR solutions could take advantage of the benefits of centralization while at the same time enabling a local knowledge and presence.

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