



Factors Influencing Local Governments' COVID-19 Crisis Decision Making: Case Study of the First Wave in the Two Estonian Municipalities

Czynniki wpływające na podejmowanie przez samorządy lokalne decyzji w związku z kryzysem COVID-19: studium przypadku dotyczącego pierwszej fali w dwóch gminach estońskich

Hannes Nagel*

Abstract

The present article describes the results of a case study on the factors that influenced COVID-19 first wave decision making on the local government level in the Republic of Estonia. The municipalities that were studied were the biggest municipality in Estonia, the City of Tallinn, and the worst hit local government in the first wave, the Municipality of Saaremaa. In the mapping of crisis units, 3 units were identified in Tallinn, 2 in Saaremaa – some formalized prior the crisis, others formalized ad hoc, and yet others not formalized at all. The subjects of the study were the members of the COVID-19 crisis units.

Abstrakt

W niniejszym artykule opisano wyniki studium przypadku dotyczącego czynników, które wpłynęły na podejmowanie decyzji związanych z pierwszą falą COVID-19 na poziomie samorządów lokalnych w Republice Estońskiej. Badane gminy to największa gmina w Estonii, miasto Tallinn, oraz najbardziej dotknięta pierwszą falą kryzysu gmina Saaremaa. W trakcie mapowania jednostek kryzysowych zidentyfikowano trzy jednostki w Tallinie i dwie w Saaremaa – niektóre sformalizowane przed kryzysem, inne sformalizowane *ad hoc*, a jeszcze inne w ogóle niesformalizowane. Podmiotami badania byli członkowie jednostek kryzysowych COVID-19.

* Tallinn University, School of Law, Governance and Society (hannes.nagel@tlu.ee),  <https://orcid.org/0000-0001-7748-4064>

The study which comprised of a questionnaire and in-depth interviews focused on the influence of 8 decision-making factors which were divided into internal (stress, helplessness, group pressure, and well-being) and external (time pressure, pressure from the media and the public, availability of information, pressure from the central government or other institutions). The results indicate that external factors were the predominantly influencing (highest pressure was felt due to time pressure, stress and the pressure from media and the public). Decision makers also highlighted previous experience, risk perception and emotions, which influenced decision making.

Key words: crisis management, COVID-19, decision making, factors, local government

Badanie, które składało się z kwestionariusza i wywiadów pogłębionych, koncentrowało się na wpływie ośmiu czynników decyzyjnych, które podzielono na wewnętrzne (stres, bezradność, presja grupy i dobre samopoczucie) i zewnętrzne (presja czasu, presja mediów i opinii publicznej, dostępność informacji, presja rządu centralnego lub innych instytucji). Wyniki wskazują, że największy wpływ miały czynniki zewnętrzne (największa napięcie odczuwano z powodu presji czasu, stresu oraz presji ze strony mediów i opinii publicznej). Decydenci podkreślali, że wpływ na podejmowanie decyzji miały także wcześniejsze doświadczenia, postrzeganie ryzyka i emocje.

Słowa kluczowe: zarządzanie kryzysowe, COVID-19, podejmowanie decyzji, czynniki, samorząd lokalny

1. Introduction

German historian Sebastian Conrad (2018, p. 183) has noted that epidemic diseases are a burdensome – and perhaps inevitable – cost of connection or globalization. The onset of COVID-19 pandemic, which started in Wuhan (Peoples Republic of China) in the beginning of 2020, has burdened health care systems, the global economy and caused serious disturbances to day-to-day governance around the globe. The public sector at all levels is responsible for managing pandemics as crises which threaten human lives. The stress that managing a crisis puts on a public institution is especially burdensome in the case of lack of information, inadequate previous experience or scarce resources, which were all present during the pandemic's first wave. No matter how dire the situation is, public sector cannot refrain from crisis management, but more specifically, from making decisions in a crisis. Therefore, crisis management via decision making may be considered a public service.

In Estonia, a public service is defined as a service rendered upon performing a public task, aimed at providing a benefit to the public, fulfilling an obligation inherent in a public role, or in order to protect fundamental rights, freedoms, and interests (Ministry of Finance, 2022, p. 26). While distinction is made between internal (services for natural and legal persons) and external (beneficiaries cannot be identified) support services, they are considered as basic services.

Of the direct services, the subdivision of event service stands out, particularly in the context of the COVID-19 crisis, being provided jointly by several institutions to enable a person to complete all the obligations and exercise all the rights that they have in relation to an event or situation (Principles for Managing Services and Governing Information, § 2 p. 4). Therefore, crisis managing via decision making may be seen more specifically as an event service.

Whilst public sector is considered to be resilient to crises (Rochet et al., 2008, p. 63), the corona crisis adds an extra nuance with its duration – it can feel like “it doesn’t matter what we do, it keeps coming back” (Tercatin, 2021). The complex conditions in which decision making takes place in the context of crisis management affect decision making as a process but also in terms of its efficiency and quality. COVID-19 has highlighted these challenges faced by public sector institutions in decision-making processes and the implementation of the resulting measures.

Decision making itself is such an integral part of crisis management that crises can be plainly interpreted as a time for decision making (Brecher, 1993; Janis, 1989). According to Lewin (1931, p. 141), “the need to make a choice is in itself a source of stress.” This stress can be managed. Although indeed there are aspects of the corona crisis that are beyond human control, there are also areas where processes and systems can be made more efficient, resilient, and flexible.

The responsibility of political decision makers in a pandemic is comparable to or even greater than the responsibility of healthcare professionals. The resilience of the healthcare system, as well as society as a whole, is directly dependent on decisions made at the public sector level, this also includes local governments. For example, the potential impact of the decisions of the largest local government in Estonia, which is the case of Tallinn, extends well over to third of the country’s total population¹ when its metropolitan area (population approx. 609,000)² is taken into account (Mürk, 2014, p. 3; Nagel, 2021, p. 7).

The COVID-19-induced crisis provides a rare opportunity to study the factors and processes by which decision making is influenced. As a practical outlet, studying decision-making processes in a crisis offers answers to public sector decision makers’ most important question: What should we know about crisis decision making and the factors influencing it?

It is worthwhile to note that adequate decision making becomes even more important in a prolonged crisis. Despite the fact that the previous waves have by now given many policymakers, organizations, and experts a number of new experiences with an ever-improving understanding of the coronavirus, the society as a whole is showing signs of corona-boredom and fatigue. This affects the

¹ As of January 1, 2021 the population of the Republic of Estonia is 1,330,068 (Statistics Estonia, 2021a).

² As of January 1, 2021 the population of Harju county is 609,515 (Statistics Estonia, 2021b).

provision of both private and public services, infringes on rights and creates social aversion (including public protests), which again highlights the importance of crisis communication as well as media and public pressure to influence crisis management. However, these are just some of the factors that have a significant impact on decision making in the on going crisis.

2. Theoretical framework

According to Conrad (2018, pp. 137–139), the historical reality on the ground level is much more confusing and fragmented than can be seen from the macro-perspective. For this reason, it is important to understand crisis management at the grassroots level of public sector, the local government. In the six-level national COVID-19 crisis management network (Ruul, 2020, pp. 62–63; Nagel, 2021, p. 173) there were three administrative levels between Estonian local governments and the central government: ministries, agencies, and regional crisis units³ (North Estonia, West Estonia, South Estonia, East Estonia, and the region of Saaremaa). This in itself describes the complexity of the multi-level decision-making environment at the time from the perspective of Estonian local governments. Although the Estonian local governments have a clear statutory role in managing a social crisis, the role of municipalities in an emerging pandemic was not clear in Estonia in the beginning of 2020.

In crisis management, Boin et al. (2016, p. 15) highlight five tasks of strategic crisis management: sense making, decision making and coordinating, meaning making, accounting, and learning. One of the pillars of crisis management is decision making. Decisions are not made in a vacuum and are influenced by various factors (Thomas, 2019, p. 28; Nagel, 2021, p. 138–139) which may differ significantly at specific levels of the public sector. Crises disrupt routines as they change the normality (Mayo, 2020), thereby posing new challenges with great uncertainty in which decision-making groups need to focus on deliberating efficiently, deciding for the common good, and persisting to implement decisions (Thürmer et al., 2020, p. 2157). Decision making during a crisis is affected by several sources of information and prior knowledge, such as factual (statistical) information, narratives of others, and real-time governmental messages (Bakker et al., 2019, p. 1419).

³ Remarks: a crisis unit is the collective term for manned systems (crisis committee, crisis team, crisis task force, etc.) of various sizes, roles, personal compositions, and time dimensions of crisis management at organizational level, which are activated and/or created at the outbreak of a crisis or during different phases thereof. Given the complexity of crises, it is normal that decision-making processes involve more than one decision-making group (Stern, 2003, p. 207) but also a new organizational form (Boin et al., 2016).

One explanation for the persuasive effect of narratives on decision making may be that affective responses (e.g. stress and anxiety) are triggered, which generally have strong effects on decision behaviour (Slovic et al., 2007). An average municipal crisis unit is made up of municipal staff and may include experts and relevant external stakeholders, led by policymakers as members of local government councils and governments. At the beginning of the corona crisis, policymakers were faced with the sudden need to take action in order to protect their population from the disease, whereas they lacked reliable information on the disease itself and its transmission mechanisms (Berger et al., 2021, p. 1). However, every crisis adds to the field the socio-economical dimension, which hinders decision making, as there is little information on the effectiveness of possible measures and their (direct and indirect) consequences (Berger et al., 2021, p. 2).

This can lead to situation interpretations that differ between decision makers within the specific organization and across the different levels of the public sector where availability of information, resources, and expertise vary greatly. According to Boin (2004, p. 171) in the initial phase of a crisis, crisis managers have to decide whether there is a real threat or whether there are signals indicating an imminent threat. Thus, the challenge reveals itself in interweaving crisis management into daily practice of politics and administration in such a way that crisis management becomes a routine form of public governance (Boin, p. 174).

The specific impact on public sector decision makers, especially on the municipality level, has so far received low attention in academic research. The impact of these factors can be both positive (e.g. the availability of information lowers perceived stress levels) and negative (e.g. time pressure as a cause of stress), which was also stated in the study (Nagel, 2021) of factors influencing decision makers in municipal crisis units. Both options need to be considered when planning decision-making units and their work organization. It must also be noted that crisis conditions can lead not only to decision making but also to non-decision making, which, according to Wolfenstein (1967), manifests itself as a decision not to decide or as a decision not to react. According to 't Hart et al. (2008, p. 237), this in turn can lead to paralysis of the organization and decision makers, where policymakers and other crisis managers are overwhelmed by the pressure of events to such an extent that they are no longer able to take action and events develop on their own.

In a decision-making situation, the inability to cope with uncertainty and constant change may also affect the decision maker's ability to process information – for example, valuable information from alternative sources may be overlooked and COVID-19 outbreak phases may be misinterpreted (Berger et al., 2020, p. 1), which can lead to decisions with possible catastrophic consequences (Chater, 2020, p. 439).

In fulfilling the role of a crisis manager as an organization, the impact of COVID-19 on local governments (OECD, 2020, p. 9) was high or very high in 63% of EU Member States' regions or municipalities. The impact was felt greatest in the municipalities with more than 250,000 inhabitants (e.g. Tallinn over 438,000).⁴ The study also mapped the factors that affected local governments the most – these were the lack of technical means and equipment, lack of human resources, legal obstacles as well as the lack of coordinated action by the central government and other state agencies (OECD, 2020, p. 10).

Rating the COVID-19 impact high or very high by most EU municipalities (OECD, 2020) raises a question on the crisis preparedness on the local level. In the case of Estonia, Saaremets (2011) and Sildnik (2018) concluded pre-COVID crisis readiness of municipalities. Saaremets (2011, p. 2) mapped the challenges of West Estonian local governments crisis units preparedness – the main problem inhibiting successful crisis management was one of resources – time, people, energy, and equipment. Sildnik (2018, p. 84) assessed the capacity of Estonian local governments to cope independently in a crisis (also with the help of service providers) and concluded it to have been rather weak. Sildnik also points out that preparedness is at best incomplete and not fully mapped (2018, p. 84). It must be considered that he studied provision of vital services such as electricity or water and, for example, readiness for evacuation whilst the challenges posed by a pandemic as a health event were different. Deciding on whether to send educational institutions to distance learning, implement curfews, or cancel large-scale events due to health hazard were pandemic-specific areas in which the Estonian municipalities had no previous and comparable experience.

The National Audit Office (2018) recommended that the Estonian public administration ought to focus on analyzing risks it did not transfer into actions, and concluded that risk mitigation measures were not systematically implemented. Furthermore, many authorities did not document nor analyze the results of crisis exercises, so there is no assurance that lessons learned are applied. What is more, several critical service providers (e.g. hospitals and ambulances) are unable to render emergency services in the event of a protracted crisis because of their dependence on electricity, heating, water, etc., which public institutions lack the resources to provide autonomously (National Audit Office, 2018, pp. 3–5). In regards to local governments, the report of 2021 (National Audit Office, 2021, pp. 7–21) concluded that the tasks of the public sector on all levels must be clear and the messages understandable to the public as lives depend on it. In addition, crisis aid for organizations (including local governments) must be delivered quickly, transparently, and take into account the actual need for assistance.

⁴ As of January 1, 2021 the population of the City of Tallinn is 438,342 (Statistics Estonia, 2021b).

One of the most in-depth study of factors influencing local level crisis units' decision makers was conducted in the context of the 2017 landscape megafires in California (USA) by Thomas (2019), whose dissertation was one of the main starting points for developing the theoretical framework of this study. In his research, Thomas (2019) determined the internal and external factors influencing decision-making processes in public sector's crisis management. Combined with the conceptual model of factors influencing decisions developed by Thompson (2014, p. 638), the two were adapted by Nagel (2021, p. 29) to study local government decision making in the initial phase of COVID-19. Looking into the local level of decision making is crucial because local governments have certain responsibilities and tasks that must be fulfilled and services which need to be provided in a crisis, foreseen by law.

The present survey (Nagel, 2021) repeated the survey conducted by Thomas (2019) in a modified form, allowing it to test the reliability of the methodology designed to study wildfire crisis management in the conditions of a megacrisis that the COVID-19 pandemic has proven to be (Boin et al., 2020, p. 189). The theoretical framework was mainly based on the combination of the works of the following researchers and their previous research results: Thomas (2019), Thompson (2014), Stern (2003), Jaques (2007, 2010, 2014), Janis (1972, 1982, 1983), Janis and Mann (1976, 1977), Holsti (1972), and Ahituv et al. (1998).

The study focused primarily on mapping factors through the study of decision-making processes of two local governments' crisis units and drawing conclusions from what had influenced the decision makers during the COVID-19 first wave.

The municipalities selected for the study differed in several parameters – for instance, size, population density, availability of manpower and financial resources, number of municipality-owned healthcare facilities, to name few (see Table 1).

Table 1.

Comparison of resources potentially affecting crisis management
in the sampled municipalities

Local government	City of Tallinn	Municipality of Saaremaa
No. of inhabitants	438 342	31 073
Density (people per sq. km)	2 745.9	11.4
Area (sq. km)	159.3	2 718
Percent of the country's population	33.4	2.3
Percent of Estonians	52.8 (2020)	97.9 (2019)
No. of municipal staff	ca. 20 000	ca. 1600
Municipal budget in 2020 (EUR)	ca. 823 700 000	ca. 55 600 000
No. of municipal hospitals	3	1

Source: own study based on regional and national statistics (Nagel, 2021, p. 49).

In addition, both Saare County and Harju County (including the Tallinn metropolitan area) stood out from other Estonian regions at the beginning and middle of the first wave with highest infection rates in the country (Nagel, 2021, p. 49). The importance of conducting research in the chosen municipalities' crisis units is also illustrated by Figure 1 and by the fact that 48.5% of first wave victims (Rüütel et al., 2020, p. 32) and 70% of patients in need of hospital treatment in Estonia came from the sample municipalities (Nagel, 2021, p. 49).

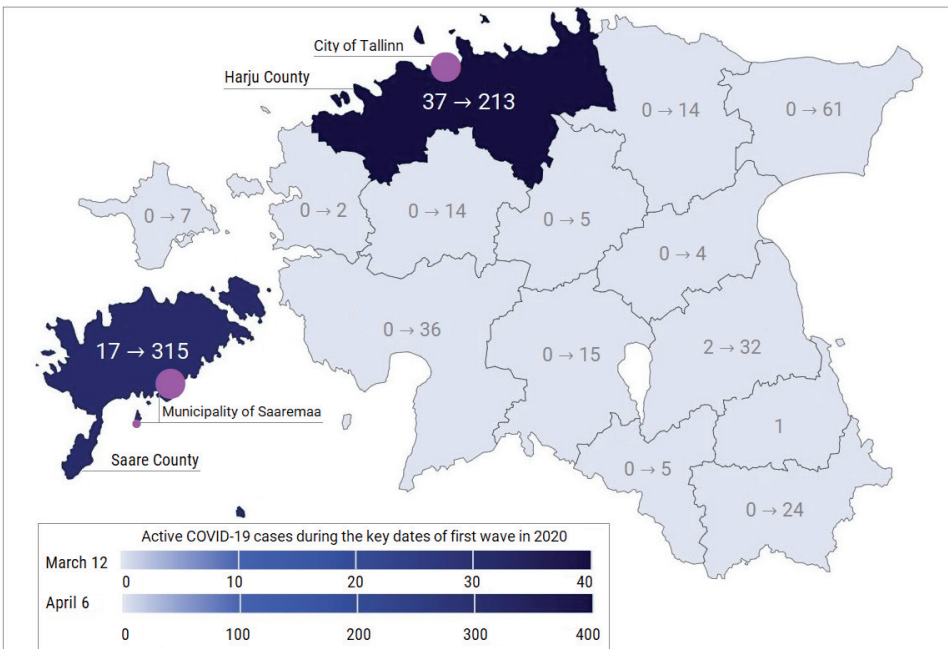


Figure 1. Active COVID-19 cases at the beginning of the emergency situation on March 12 and during the peak on April 6 in 2020

Explanation: the arrows mark the increase in the number of infected people over time at county level, comparing the two key dates of the first wave.

Source: own elaboration based on the Estonian Health Board statistics.

The decision makers of the crisis units of two Estonian local governments – the City of Tallinn and the Municipality of Saaremaa – who were involved in preventing the spread of COVID-19 viral disease during the above-mentioned period were included in the sample. The period which the study focused on started on February 26, 2020, when the threat from the coronavirus became real in Estonia – on this date the first infected person was identified in the country (Estonian Health Board, 2020) and the central government formed a coronavirus prevention team (Government of the Republic of Estonia, 2020). The survey

period ends on May 18, 2020 with an end of the emergency situation declared by the central government.

3. Methodology

The design of the study was based on a combined method, which according to Tashakkor and Creswell (2007, p. 4) gives the researcher a certain advantage in collecting and analyzing data by integrating findings and drawing conclusions using both quantitative and qualitative methods. It also allows expanding and strengthening the findings of the study (Schoonenboom & Johnson, 2017, p. 110). The combined study method (Nagel, 2021) used document analysis, a questionnaire, semi-structured interviews and correlation analysis. The decision makers of the crisis units provided important quantitative and qualitative input to the study, which complemented each other. The methodology allowed to describe what factors influenced decision makers and how, in order to assess the impact of these factors and the causality between them.

The study consisted of three consecutive stages. First, document analysis was used to map the crisis units created at the beginning of the pandemic in Tallinn and Municipality of Saaremaa. After identifying the crisis units, a list of their members during the first wave was compiled. In order to refine and verify the size of the final sample, several requests for information were made, and consultations held with representatives of the municipalities to clarify decision-making networks at the local government level. In total, 80 members of the crisis units were identified. Then, a questionnaire (see Nagel, 2021, pp. 165–168 for more details) was sent to all of the members of the mentioned crisis units with an aim to acquire quantitative data to map the decision makers' assessments based on the influencing factors previously discussed in the Thomas (2019) and Thompson (2014) studies on a 5-point scale (1 – lowest influence, 5 – highest influence). Answers of 41 (51%) members of the crisis units were received. The database with the collected quantitative data was analyzed using R-Studio (v. 1.3.1093).

Lastly, semi-structured interviews (see Nagel, 2021, p. 53 for the details) (n = 15) were conducted with decision makers to understand the real life implications of the factors which were, according to the questionnaire, the biggest influencers of crisis decision making. The interviews resulted in 11 hours (Nagel, 2021, p. 52) of audio material subsequently analyzed via narrative and discourse analysis.

As a limitation of the methodology, one must point out the fact that the beginning of the questionnaire survey was 213 days after the end of the Emergency Situation and 295 days from the beginning of the survey period. It must therefore be kept in mind that remembering the events of that time may have been difficult over the said time period for decision makers. It must also be considered that at the time when the study was underway, Estonia was in the midst of the active phase of the second wave of COVID-19 and the crisis units of both the municipalities were actively engaged with crisis management (Nagel, 2021, p. 142).

4. Main results in regard the decision-making factors and their manifestations

In the phase of mapping of the crisis units of the studied municipalities, three crisis units were identified in Tallinn, two in Saaremaa – some formalized prior to the crisis, others formalized ad hoc, and yet others not formalized at all. In these crisis units, 80 members were identified. The decision makers were divided into four categories: 1) members of local government councils and (city/rural municipality) governments, 2) heads of local government agencies, 3) local government officials, and 4) external experts (see Nagel, 2021, pp. 169–170 for more details).

In the questionnaire that was sent to them, the decision makers assessed 8 factors (stress, helplessness, media and public pressure, time pressure, group pressure, availability of information, self-care, and pressure from central government or other organizations) that influenced on decision making in the first wave, on the mentioned 5-point scale during the period. Time pressure, stress, media and public pressure were rated as the most important factors influencing the decision-making process (see Figure 2).

The decision makers of both Tallinn and Saaremaa crisis units rated time pressure, stress and media and public pressure, as the most influential unanimously, but in Saaremaa the influence of the factors was felt as more severe. This is also in line with the difference in the depth of the crisis in the first wave, the situation in Saaremaa was critical contagion-wise. For example, the average perceived impact of key factors on a 5-point scale was 2.94/5 in Tallinn and 3.25/5 in Saaremaa, which suggests that the deeper the crisis, the more important external and internal factors become in influencing decision makers (Nagel, 2021, pp. 70, 141).

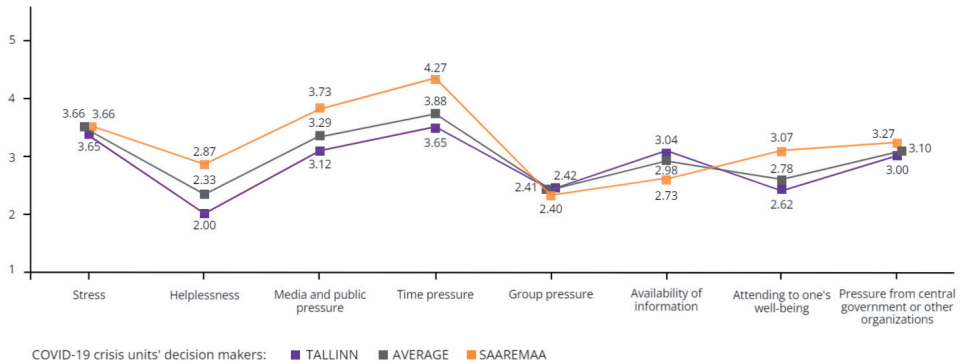


Figure 2. Perceived impact of factors in the decision-making process during the first wave of COVID-19 on the averages of municipalities and decision makers

Source: own study based on online-questionnaire survey (Nagel, 2021, p. 69).

When comparing external (derived from the decision-making environment) and internal (derived from within the crisis unit) factors, the impact of external factors (time pressure, media and public pressure, availability of information, central government or other organization pressure) was considered more severe – the average influence of external factors was 3.31/5 compared to internal factors (stress, attending to one’s well-being, group pressure, and helplessness) with an average of 2.79/5 (Nagel, 2021, p. 140). Pressure from the central government or other organizations, the availability of information, attending to one’s well-being, group pressure, and helplessness were perceived as less influential.

During the first wave of the coronavirus crisis, the situation emerged differently in Tallinn and Saaremaa. The study results show that this difference was also reflected in the perception of the factors that influenced decision making by respective crisis units’ decision makers. The decision makers of both municipalities chose identical factors – time pressure, stress and media and public pressure – as the three most influential factors of the decision making. In Saaremaa, as the municipality that was affected most seriously in the first wave, the influence of the factors was felt more intensively by the decision makers.

As the question “What factors influenced decision making in the crisis units the most?” was answered, the question “How did the influence of these factors emerge?” remained. In addition to the 8 main factors provided to the decision makers for assessment, the interviews revealed three additional factors influencing decision making: the existence of previous (personal) experience, risk perception, and emotions. The manifestations of the 8 main and 3 additional factors (in total 34) that influenced the decision making are summarized in Table 2:

Table 2.

Key and additional factors influencing decision making and their forms of expression

Key factor	Output
Time pressure	1. The need to decide quickly; 2. Many tasks combined with the lack of time; 3. Periodicity of time pressure.
Stress	4. Increase in workload and long working hours; 5. Perceptions of residents' expectations as a source of stress; 6. Adrenaline-powered working.
Media and public pressure	7. Media's hunger for information; 8. Proactive communication; 9. Click-based media as an amplifier of situations and influencer of decision-making process; 10. Difficulties of reaching different target groups.
Helplessness	11. Feeling of hopelessness; that one's life has changed forever; 12. The feeling of abandonment.
Group pressure factors and manifestations	13. Existence of a strong leader, system and discipline; 14. Discussions, disputes and disagreements.
Availability of information	15. Lack of information – difficult to get information from the Estonian Health Board; 16. Request to be involved in the state-level national crisis committee.
Attending to one's well-being	17. Meeting physiological and security needs; 18. Burnout and its prevention.
Pressure from central government or other organizations	19. Weak state governance and lack of support; 20. Confusing uncoordinated guidelines from higher levels; 21. Uncertainty of the legal space; 22. The problem of the "one size fits all" approach.
Additional factor	output
Existence of previous experience	23. Positive effect of having personal experience; 24. Negative impact of lack of experience at organizational level; 25. Unrealistic and insufficient previous crisis exercises.
Risk perception	26. Difference in risk perception in Tallinn and Saaremaa; 27. Wearing a mask as an example of the danger perception during the first corona wave; 28. Public sector communication choices as an influencer of public risk perception; 29. Many other municipalities did not take the crisis seriously.
Emotions	30. Feeling fear; 31. Fiery and passionate discussions; 32. Mental coping with prospective and real deaths; 33. Public criticism at the height of the crisis; 34. Echoes of exertion.

Source: own study based on information from semi-structured interviews (Nagel, 2021, p. 138).

In the narrative analysis of the interviews (see Nagel, 2021, pp. 139–140 for more details), the following features of the factors influencing decision-making were mentioned:

A very important feature of a crisis situation was considered to be working under strong time pressure, which was characterized by decision makers as the need to decide quickly, the abundance of tasks combined with long working hours. During the onset of the crisis, the situation was somewhat interesting for decision makers, despite the perceived danger. It was considered important to provide days off to maintain mental health of the people working in the crisis units. In Saaremaa, a ban was applied on the on-site working of the crisis unit member, if their workload had turned out to be too great, rotation was used in Tallinn. According to the decision makers, there were many debates and discussions, but the matter rarely ended with serious disagreements, and there was no recording of disagreements in the official documents. Dealing with death was described as the emotionally most difficult aspect of the crisis.

At the beginning of the crisis, the ambiguity and complexity of decision making was most evident in enforcing restrictions and mitigation measures (distance learning, closing the non-essential shops in shopping malls, setting rules for public transport etc.), arranging communication (on the restrictions, easing the restrictions, precautionary measures) but also in reorganizing the work of the local government units (distance work while remaining available for the citizens).

Local government decision makers highlighted the media's hunger for information, which was generally considered understandable and inevitable, although it was sometimes interpreted as a search for "clickbait headlines". The decision makers emphasized the importance of proactive communication as a mitigation measure for media pressure – holding regular press conferences or giving regular information to the media by other means. Reaching some specific target groups via communication was not easy – in Saaremaa, for example, youngsters, in Tallinn, the Russian-speaking population.

There were quite large differences in the perception of risk – in Tallinn, as a municipality with a significantly higher population density, the risk was felt quite early, in the Municipality of Saaremaa the protection was felt greater – being on an island, away from the mainland and virus outbreaks in China and Italy seemed very far away. The decision makers emphasized the positive effects of personal past (crisis) experiences and the negative effects of the lack of organizational experience. Earlier crisis exercises were deemed insufficient in numbers and unrealistic in content. The importance of a strong leader, system, structure and discipline in the crisis was considered vital asset of a functioning crisis units.

There were difficulties in obtaining information from the Estonian Health Board⁵ observed in the crisis units of both municipalities, whose members were expecting more constructive help in organizing the work of hospitals as well as clearer messages. In both crisis units, it was claimed that in certain situations local governments were left alone by the state in a crisis situation, which created a feeling of helplessness. In the case of the relations with central government, crisis management was considered to be relatively weak as it was often not understood who (what organization, ministry etc.) was managing the crisis at the central level. This may be due to the six-level crisis management scheme previously discussed (see Nagel, 2021, p. 173 for more details). In Tallinn, it was emphasized that the government was trying too hard to implement “one size fits all” approach, due to the fact that the capital, with almost half a million inhabitants, was subject to the same restrictions as some small municipalities with a population of ca. 1,000. Both Tallinn and Saaremaa in the first wave, considered that their representatives should have been included in the national crisis committee.

The ambiguity of the legal space was evident in the decision-making processes concerning mass gathering events that would potentially lead to a crisis. In order for local governments to be able to ban a concert before the Emergency Situation was declared, for example, they would have had to start “inventing” a non-traditional solution in the legal sphere. The decision makers were also disturbed by public criticism at the height of the crisis, when they did not even have time to respond to criticism in addition to their job responsibilities.

The main hypotheses in regard of the factors that influenced decision making on the local government level in the first wave, are summarized as follows:

- *Time pressure is a significant factor influencing decision making:* during the first wave of COVID-19 it turned out to be the most important decision-making factor (3.88/5) and it was felt more acutely in Saaremaa (4.27/5) versus Tallinn (3.65/5). Time pressure had a more significant and statistically significant effect on all other factors, most notably the perception of group pressure and helplessness as well as stress. The decision makers described the need for quick decision making, the multiplicity of tasks in the face of time constraints and the reduction of time pressure in April 2020 as expressions of time pressure.
- *Stress is a significant factor influencing decision making:* it turned out to be the second largest factor influencing decision making (3.66/5) and it was evenly felt in Saaremaa (3.66/5) and in Tallinn (3.65/5). Stress was significant-

⁵ The study (Nagel, 2021, p. 88) also revealed that the Estonian Health Board did not consider important to make any substantive changes in the personnel of the agency even at the height of the COVID-19 first wave crisis despite it had great difficulties in communicating critical information to the numerous crisis units operating in across Estonia – from January 1 to May 18, 2020 the change in staff occurred only within 0.85 positions (252.3 in January and 253.15 in May, 2020; Estonian Health Board, 2021).

tly affected by other factors, including the statistically significant presence of information, time pressure and feelings of helplessness. While speaking about stress, the decision makers described the increase in workload and long working days, the perception of residents' expectations as a separate source of stress and working on adrenaline.

- *Media and public pressure is an important factor in the decision making of local governments in crisis units:* ranked third highest factor influencing decision making (3.29/5), it was felt more strongly in Saaremaa (3.73/5) versus in Tallinn (3.12/5). It also affected other factors, including statistically significant helplessness and time pressure. The decision makers described media pressure as media's hunger for information, the effects of clickbait on decision-making processes, the importance of proactive communication and reaching different target groups.
- *The availability of information is a significant factor influencing decision making:* this hypothesis was not confirmed in its original form. The availability of information was not one of the factors that local government decision makers assessed as one of the most important factors that directly affected the situation (only fifth in order), but it does have a strong indirect effect through several other factors that make it difficult to solve and decide. This finding is confirmed by Ahituv et al. (1998) who found that the availability of complete information does not always improve the results of decisions to a statistically significant extent. It appeared that the availability of information reduces perceived stress, helplessness, and time pressure. The decision makers described the lack of information and the desire to be at the national decision-making level (Nagel, 2021, p. 173), for example involved in the national crisis committee.
- *Experienced decision makers are important contributors to crisis units:* the existence of previous personal experience was an important factor in the assessments of the decision makers of local government crisis units, it was mentioned in the interviews by almost all decision makers (93.3%) and therefore the author assessed it as an additional factor. The decision makers described the positive effects of having personal experience, the negative effects of the lack of organizational experience, and unrealistic and too little crisis exercises that did not allow for sufficient crisis preparedness as expressions of the importance of past experience.
- *Local government crisis units as new and relatively small groups are more compliant in their decisions and conflict-avoiding:* the results of the decision makers' interviews showed that disagreements were never recorded and that conflicts remained at the level of discussions and were resolved through clarification. This finding confirms the observation of Stern (2003) and Stern and Sundelius (1994) that such tendencies are particularly evident in small decision-making groups set up on an ad-hoc basis.

5. Conclusions

Being influenced by time pressure, stress, emotions, and other factors characteristic to crisis management situations, reminds us that crisis managers and the decision-making process are not immune to adverse effects of crisis environment. Janis and Mann (1977, p. 15) have aptly presented decision makers as dependent individuals who are “limited by conflict, doubt, concern, longing, antipathy, and loyalty.”

The study confirmed the conclusion of Millar et al. (2018) that lack of readiness causes stress, mental exhaustion, and inhibits the ability of an organization to operate in an unstable environment. The 34 different forms of expression with 8 main factors and 3 additional factors revealed suggest that in a crisis environment local governments of different sizes (e.g. Tallinn vs Saaremaa) do not have fundamental advantages over each other (Nagel, 2021, p. 25). A similar finding has been made by the OECD (2020) study.

The results of this study only show the factors that influenced decision makers of local municipalities in a very specific context – beginning of a pandemic caused by a virus that was unknown at the time. The novel crisis combined with a serious lack of information created a distinct and specific crisis-management situation. Follow-up studies are needed to clarify the types of factors that influence decision makers in the second, third, and following waves to understand better how the decision making as a process change in a long and evolving crisis to better understand the dynamics of local-level decision making.

One of the key conclusions of the study is that the severity of the influence of decision-making factors felt in the crisis units is linked to the severity of the situation. This means that, for example, the pressure under which the health-care system of a municipality is, translates into the higher influence of decision-making factors. There remains a question whether high infection rates bring extreme decision-making environment or vice versa, the increasingly stressful crisis management situation is what leads to, in some case, inadequate decisions and therefore exacerbates crisis?

Considering the latter, mitigating the influence of factors that make decision making difficult should in theory also help to ease the consequences of the crisis. If we, for example, take pressure from media that was mentioned as one of the top three influencing factors, engaging in proactive communication and including crisis management experts should alleviate this. In the case of time pressure, hiring temporary workforce to allow crisis managers focus on managing the crisis (not as a by-product from their day-to-day tasks), might also contribute to better decisions. How exactly mitigating the effects of the factors influencing the decision-making process translates into more effective crisis

management in local administration and public administration in general, needs to be studied further.

References

- Ahituv, N., Igarria, M., & Sella, A. (1998). The effects of time pressure and completeness of information on decision making. *Journal of Management Information Systems*, 15(2), 153–172.
- Bakker, M. H., Kerstholt, J. H., Bommel, M., & Giebels, E. (2019). Decision-making during a crisis: the interplay of narratives and statistical information before and after crisis communication. *Journal of Risk Research*, 22(11), 1409–1424.
- Berger, L., Berger, N., Bosetti, V., Gilboa, I., Hansen, L. P., Jarvis, C., Marinacci, M., & Smith, R. D. (2021). Rational policymaking during a pandemic. *Proceedings of the National Academy of Sciences*, 118(4), 1–2.
- Berger, L., Berger, N., Bosetti, V., Gilboa, I., Hansen, L. P., Jarvis, C., Marinacci, M., & Smith, R. D. (2020). Uncertainty and decision-making during a crisis: how to make policy decisions in the COVID-19 context? *Becker Friedman Institute*, 6.
- Boin, A. (2020). Lessons from crisis research. *International Studies Review*, 6(1), 165–194.
- Boin, A., 't Hart, P., Stern, E., & Sundelius, B. (2005). *The Politics of Crisis Management*. Cambridge: Cambridge University Press.
- Boin, A., 't Hart, P., Stern, E., & Sundelius, B. (2016). *The Politics of Crisis Management. Public Leadership under Pressure*. (2nd edition). Cambridge: Cambridge University Press.
- Boin, A., Lodge, M., & Luesink, M. (2020). Learning from the COVID-19 crisis: an initial analysis of national responses. *Policy Design and Practice*, 189–191.
- Brecher, M. (1993). *Crises in World Politics: Theory and reality*. Oxford: Pergamon Press.
- Chater, N. (2020). Facing up to the uncertainties of COVID-19. *Nature Human Behaviour*, 4,
- Conrad, S. (2018). *Mis on globaalne ajalugu?* [What is Global History?]. Tallinn: Tallinn University Press, pp. 137–139, 183.
- Estonian Health Board (2020). Eestis diagnoositi esimene COVID-19 haigusjuhtum [First COVID-19 case diagnosed in Estonia], 27.02.2020. <https://www.terviseamet.ee/et/uudised/eestis-diagnoositi-esimene-covid-19-haigusjuhtum> (accessed: 29.08.2021).
- Estonian Health Board (2021). 20. jaanuari infopäringu „Infopäring Terviseameti kriisijuhtimise struktuurist perioodil 27.02.2020 kuni 18.05.2020“ 2. veebruari vastuskiri nr 5-7/21/260-2 [2nd of February reply No 5-7/21/260-2 in regard the 20th of January request of information “Information request on the crisis management structure of the Estonian Health Board for the period 27.02.2020 to 18.05.2020”].

- Government of the Republic of Estonia (2020). *Government sets up cross-sectoral working group to tackle the spread of the coronavirus* [Valitsus moodustas koroonaviiruse leviku tõkestamiseks valdkonnaülese töörühma], 27.02.2020. <https://www.valitsus.ee/uudised/valitsus-moodustas-koroonaviiruse-leviku-tokestamiseksvaldkonnaulese-tooruhma> (accessed: 29.08.2021).
- Holsti, O. R. (1972). *Crisis, Escalation, War*. Montreal: McGill-Queen's University Press.
- Janis, I. L., & Mann, L. (1977). *Decision Making: A Psychological Analysis of Conflict, Choice, and Commitment*. New York: The Free Press.
- Janis, I. L. (1972). *Victims of Groupthink*. Boston: Houghton-Mifflin.
- Janis, I. L. (1982). *Stress, Attitudes, and Decisions: Selected Papers*. Centennial Psychology Series. New York: Praeger.
- Janis, I. L. (1989). *Crucial decisions: Leadership in Policymaking and Crisis Management*. New York: The Free Press.
- Janis, I. L., & Mann, L. (1976). Coping with decisional conflict: An analysis of how stress affects decision-making suggests interventions to improve the process. *American Scientist*, 64(6), 657–667.
- Jaques, T. (2007). Issue management and crisis management: an integrated, non-linear, relational construct. *Public Relations Review*, 33(2), 147–157.
- Jaques, T. (2010). Reshaping crisis management: the challenge for organizational design. *Organizational Development Journal*, 28(1), pp. 9–17.
- Jaques, T. (2014). *Issue and Crisis Management: Exploring Issues, Crises, Risk and Reputation*. South Melbourne: Oxford University Press.
- Lewin, K. (1931). The conflict between Aristotelian and Galilean modes of thought in contemporary psychology. *Journal of General Psychology*, 5, 141–177.
- Maor, M., & Howlett, M. (2020). Explaining variations in state COVID-19 responses: psychological, institutional, and strategic factors in governance and public policy-making. *Policy Design and Practice*, 3(3), 233–235.
- Mayo, A. T. (2020). Teamwork in a pandemic: insights from management research. *BMJ Leader*, 4(2), 53–56.
- Millar, C. C. J. M., Groth, O., & Mahon, J. F. (2018). Management innovation in a VUCA world: challenges and recommendations. *California Management Review*, 61(1); pp. 5–14.
- Ministry of Finance. (2022). Käsiraamat: strateegiline planeerimine ja finantsjuhtimine [Handbook: Strategic Planning and Financial Management], 1–294. <https://www.rahandusministeerium.ee/et/printpdf/kasiraamat/34888> (accessed: 1.03.2022).
- Mürk, I. (2014). *Case Study Report: Tallinn Area and its Regional Hinterland*. GRINCOH Working Paper Series, Paper No. 6.06.04.
- Nagel, H. (2021). Kohaliku omavalitsuse kriisiüksustes otsustamist mõjutanud tegurid COVID-19 kriisis – juhtumiuuring Tallinna linna ja Saaremaa valla näitel [Local Governments Crisis Units Decision-Making Influencing Factors in the COVID-19 Crisis – Estonian Case Study: Example of the City of Tallinn and the Municipality of Saaremaa]. Tallinn: Tallinn University, pp. 7, 25, 29, 49, 52–53, 57, 69–70, 88, 116, 133–135, 138–142, 165–170, 173. https://uuritud.tallinnlv.ee/file_download/1258 (accessed: 27.09.2021).

- National Audit Office (2018). *Government's activity upon preparing for emergencies endangering internal security (summary of the report)*, pp. 3–5. <https://www.riigikontroll.ee/DesktopModules/DigiDetail/FileDownloader.aspx?AuditId=2467&FileId=14269> (accessed: 1.03.2022).
- National Audit Office (2021). *The five lessons learned from the coronavirus crisis – Observations by the National Audit Office on crisis preparedness and crisis management 2020-2021*, 7–21. <https://www.riigikontroll.ee/DesktopModules/DigiDetail/FileDownloader.aspx?FileId=15034&AuditId=2538> (accessed: 1.03.2022).
- OECD (2020). The impact of the COVID-19 crisis on regional and local governments: Main findings from the joint CoR-OECD survey. *OECD Regional Development Papers*, No. 05, OECD Publishing, Paris, 9–10.
- Principles for Managing Services and Governing Information, (RT I, 31.05.2017, 7). § 2 p 4. <https://www.riigiteataja.ee/en/eli/502062021006/consolide> (accessed: 1.03.2022).
- Rochet, C., Keramidis, O., & Bout, L. (2008). Crisis as change strategy in public organizations. *International Review of Administrative Sciences*, 74(1), 63.
- Ruul, K. (2020). Igaühest võib saada epidemioloog [Anyone can become an epidemiologist]. *Radar*, 31, 62–63; https://issuu.com/ajakiri_radar/docs/radar_2020_01_issuu (accessed: 29.08.2021).
- Rüütel, K., Panov, L., Sadikova, O., Epštein, J., Sepp, H., & Härma, M.-A. (2020). COVID-19 epidemioloogiline ülevaade. 2020. aasta I poolaasta [COVID-19 epidemiological overview. First half of 2020]. Tallinn: Estonian Health Board.
- Saaremets, V. (2011). Kohaliku omavalitsuse kriisikomisjoni ülesanded elanikkonnakaitse korraldamisel KOKS'i ja HOS'i alusel [Tasks of the local government crisis commission in the organisation of civil defence under the LGOA and EA]. Tallinn: Estonian Academy of Security Sciences. <https://digiriul.sisekaitse.ee/handle/123456789/1030> (accessed: 26.02.2022).
- Schoonenboom, J., & Johnson, R. B. (2017). How to construct a mixed methods research design? *Kölner Zeitschrift für Soziologie und Sozialpsychologie*, 2(69), 107–131.
- Sildnik, M. (2018). Kohalike omavalitsuste valmisolek leevendada kriisiolukorrast tulenevat haavatavust elutähtsate teenuste pakkumise, evakuitsiooni läbiviimise ja kriisikommunikatsiooni korraldamise kaudu [Preparedness of local authorities to mitigate vulnerability to crisis through the provision of critical services, evacuation and crisis communication]. Tallinn: Estonian Academy of Security Sciences. <https://digiriul.sisekaitse.ee/handle/123456789/2072> (accessed: 26.02.2022).
- Slovic, P., Finucane, L. M., Peters, E., & MacGregor, D. G. (2007). The affect heuristic. *European Journal of Operational Research*, 177(3); pp. 1333–1352.
- Statistics Estonia (2021a-d). *Statistics by region*. <https://www.stat.ee/en/find-statistics/statistics-by-region> (accessed: 27.09.2021).
- Stern, K. E. (2003). *Crisis Decision-making: A Cognitive Institutional Approach*. Swedish National Defence College. Stockholm: Elanders Gotab.
- Stern, E., & Sundelius, B. (1994). The Essence of Groupthink. *Mershon International Studies Review*, 38, 101–107.

- 't Hart, P., Rosenthal, U., & Kouzmin, A. (2008). *Crisis Decision Making: The Centralization Thesis Revisited*. In A. Boin (ed.), *Crisis Management*, 225–249. Los Angeles: SAGE. .
- Tashakkori, A., & Creswell, J. W. (2007). Editorial: The new era of mixed methods. *Journal of Mixed Methods Research*, 1(1), 3–7.
- Tercatin, R. (2021). Dealing with another COVID wave is emotionally hard. *The Jerusalem Post*, 16.08.2021. <https://www.jpost.com/health-science/dealing-with-another-covid-wave-is-emotionally-hard-doctor-says-676887> (accessed: 18.08.2021)
- Thomas, C. (2019). *An Examination of Decision-Making during Organizational Crises: A Case Study of the 2017 Northern California Firestorm*. Fort Collins: Colorado State University.
- Thompson, M. P. (2014). Social, institutional, and psychological factors affecting wildfire incident decision making. *Society and Natural Resources*, 27(6).
- Thürmer, J. L., Wieber, F., & Gollwitzer, P. M. (2020). Management in times of crisis: Can collective plans prepare teams to make and implement good decisions? *Management Decision*, 58(10), 2155–2176.
- Wolfenstein, V. E. (1967). *Some psychological aspects of crises leadership*. In L. J. Edinger (ed.), *Political leadership in industrialized societies* (pp. 155–181). New York: Wiley.