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FROM THEORY TO PRACTICE: *RESILIENCE AS THE FOUNDATION FOR GOVERNMENTAL EFFECTIVENESS* [1]

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Abstract: In the aftermath of complex disruptions, such as the COVID-19 pandemic, public organizations are increasingly focusing on strengthening their organizational resilience. Although resilience is gaining more attention in both academia and practice, turning theoretical insights into practical strategies remains difficult, especially in the area of public safety. This article explores how organizational resilience was evaluated and improved within a Dutch safety region. Using a capability-based conceptualization of organizational resilience that differentiates between anticipatory, coping, and adaptive skills, we surveyed members of the management team of a safety region in the Netherlands. The survey focused on perceptions of organizational skills and resilience factors. The findings show differing views across skill domains, underscoring the importance of both tangible and intangible factors, such as culture, resources, and leadership. Furthermore, the survey results provide crucial insights for prioritizing factors that help the organization better prepare for undesirable events. In the second phase of the case study, facilitated workshops assisted in interpreting these findings collaboratively and supported strategic decision-making. This article demonstrates the practical application of resilience in public organizations and promotes a participatory approach to implementing and embedding resilience at a strategic level.

The increasing complexity of our society and the rapidly changing risk landscape make it necessary for organizations to strengthen their resilience (Linnenluecke, 2017; Williams et al., 2017). Preparing for disruptions such as prolonged power outages, cyberattacks, pandemics, or other unexpected crises is a crucial part of everyday operations for many organizations (Kristensen et al., 2025). Emergency services often take the lead in this, given their key roles in firefighting, disaster response, and crisis management. Additionally, many governments have placed strong emphasis on ‘business continuity’ in recent years, reviewing critical processes (such as issuing permits or deeds, managing household waste, or ensuring the democratic decision-making process) and developing plans (and investments) to keep these processes running smoothly during any disruption (Van Trijp et al., 2019). Industry has also increased its focus on resilience in recent years (Ketelaars et al., 2024). Examples include creating additional buffers (both financial and resource-based), taking steps to purchase raw materials or produce components closer to home (known as ‘near-shoring’), and a growing recognition that processes must be not only more sustainable but also more redundant.

[1] This text is the English translation of an article that appeared as part of a publication on the occasion of the Opening Speech to the Provincial Council of Antwerp, delivered by Governor Cathy Berx on December 5, 2025:
Marynissen, H., Meulemeester, R., Domínguez-Ortega, J.M., van Dis, H. & Rijkers, A. (2025) ‘Van resilience theorie naar weerbaarheid in praktijk: Van reactief naar proactief—veerkracht als fundament voor bestuurlijke slagkracht’, in Berx, C. (ed.) *The readiness is all. Hoopvol samenleven in tijden van toenemende dreiging (Opening speech 2025)*. Governor of the Province of Antwerp, pp. 77–98.
Available at: https://www.gouverneurantwerpen.be/nl/publicaties/openingsrede-2025-0

We cannot deny that since the COVID-19 pandemic, our awareness of social resilience has only grown. A good indicator of this is perhaps scientific research on resilience. For example, the number of scientific publications with “resilience” in the title in management and organizational sciences has quadrupled over the past five years. In public management, we have even seen a fivefold increase in publications since 2020 (Mhlanga & Dzingirai, 2024). There is no doubt that we need not only knowledge but also answers on how to become more resilient as a society. However, we may wonder whether we are truly that much more resilient now than before COVID-19. Still, very little is known about operationalizing resilience, let alone translating scientific knowledge into products, services, or strategies that help organizations implement resilience concretely (Hermelin et al., 2020).

That is why, in recent years, we have studied which factors influence the various capacities that collectively determine an organization’s resilience (Domínguez-Ortega et al., 2024). Our research was based on Stephanie Duchek's capability-based conceptualization of organizational resilience. Duchek (2020) suggests that organizational resilience can be divided into three phases – before, during, and after an unexpected event or crisis – with each phase requiring specific resources and actions. These actions are categorized into cognitive and behavioral actions. Before a crisis, known as the ‘anticipation phase,’ it is especially important to prepare for potential negative events and to develop the knowledge to observe and detect threats early. Observation and identification involve cognitive actions, while preparing for negative events involves behavioral actions. Both naturally need adequate resources, such as the right tools for observation, training, strategic adjustments to the organizational structure, and so on.

During a crisis, which Duchek (2020) calls the “coping phase,” it involves both cognitive (acceptance) and behavioral (developing and implementing solutions) actions to deal with the new reality. This also requires resources, often social ones. Think of enough manpower to address the issue, but also people and resources outside your organization who are willing to assist you.

Once the crisis is mostly under control, Duchek emphasizes the importance of adapting to the new reality. After a crisis, we never return completely to the way things were before; instead, we always end up in a post-crisis state. You can think of it like filling a pothole in the road. No matter how well the repair is done, you can still feel the repair every time you drive over it. Duchek calls this the ‘adaptation phase,' where reflection and learning (cognitive actions) are necessary, along with organizational changes (which involve behavioral actions). The resources needed to successfully carry out both steps are not physical but policy-related, specifically, the assumption of authority and responsibility.

Many organizations are already preparing for unexpected events that could significantly disrupt their daily operations and, as a result, the products or services they provide. This often involves stockpiling extra inventory, implementing redundant systems, or investing in additional capacity that can be quickly deployed. The question, however, is whether we should focus only on resources and processes or also consider other factors such as structure, strategy, culture, or knowledge.

Resilience as a decathlon

Whether it's a corner grocery store, a wholesaler, an industry, a province, or a region, every organization has limited amounts of money, time, people, and resources to build resilience. The key question for every director or manager is what priorities to set and which choices are best for the organization. Completely eliminating risks and ensuring a 100% safe and accident-free environment is an illusion. It would make the organization rigid, boring, and even unlivable. However, anyone concerned with the resilience and robustness of citizens, businesses, organizations, governments, and society as a whole will quickly face the challenge of how to give tangible form to resilience. What exactly do we need? Which resilience factors matter most? And what preconditions are essential for achieving greater resilience?

With a little creativity, resilience can be compared to the dreaded decathlon, an Olympic discipline in which athletes must complete ten athletic disciplines over two days: four running events, three throwing events, and three jumping events. An athlete's final score depends on their performance in each event. This means you can't train for the decathlon as a whole; you can only prepare for the individual events. And even if you perform poorly in one event, you can still win the decathlon. The comparison with resilience is straightforward: organizations cannot build resilience as a single entity, but they can develop capacities within various areas that collectively form resilience.

Ultimately, resilience remains a strategic choice, and it is up to organizations to decide what they want to focus on or what they consciously choose not to focus on (we refer to this as being "competently incompetent"). In addition, the decathlon requires excellent physical and mental condition to cope with the rapid succession of events, just as it demands a great deal from organizations to manage different processes that must ultimately lead to resilience (Domínguez-Ortega et al., 2025).

Fortunately, organizational resilience does not involve much running, jumping, or throwing. It mainly focuses on strengthening abilities in the so-called anticipation, coping, and adaptation stages, each of which includes cognitive and behavioral actions and resources (Duchek, 2020). Before organizations can decide to enhance their capabilities, it is wise to evaluate where the organization currently stands.

Looking at the 'neighbors'

Given the increasing complexity of our society and the rapidly changing risk landscape, organizations would do well to strengthen their resilience and prepare themselves for disruptions such as prolonged power outages, cyberattacks, pandemics, or crisis situations, which we often refer to in risk management as High-Impact Low-Probability events (Pescaroli et al., 2025). The COVID-19 pandemic has taught us that in such crises, our 'business as usual' is thoroughly disrupted and the future suddenly becomes very uncertain and, above all, unpredictable. The question of whether your organization is resilient enough to avert potential threats or resilient enough to cope with figurative storms and adversity suddenly becomes very

relevant. Especially for emergency services. If a disaster or crisis affects them, they may no longer be able to provide assistance. What strategic choices should they make today to ensure that they are more resilient in the future?

The Dutch Safety Region of Central and West Brabant (Veiligheidsregio Midden- en West-Brabant) conducted an interesting exercise to explore these questions. In the Netherlands, emergency response organizations are organized into 25 different Safety Regions. A safety region is a government agency composed of regional fire brigades, municipal medical services, and regional medical emergency services, with main tasks including organizing and implementing crisis management and creating an overview of all relevant risks and hazards in its territory. As composite disaster response organizations, Safety Regions play an important role in the Netherlands in mitigating, preparing for, and preventing a wide range of threats, incidents, and crises. The Safety Regions Act (Rijksoverheid, 2010) stipulates that the response of the safety regions must be of sufficient quality and appropriate to the incident or crisis before, during, and after an event (Boersma et al., 2012).

Given its legal role in areas such as firefighting, disaster response, and crisis management, the Safety Region of Central and West Brabant (SRCWB) sought to increase the organization's resilience in 2025. But how do you start? What resources, skills, and beliefs are needed? And how can you ensure that resilience doesn't compromise effectiveness and efficiency? The Safety Region pursued two approaches in seeking answers. One was a ‘fast track’ for a prolonged power outage, identifying critical processes, principles, and resources to implement or purchase. The other was a ‘security track’ focusing on the human and organizational aspects of resilience. In other words, the fast track primarily concentrated on maintaining the continuity of key operational processes, while the security track works to foster a culture that allows the fast track to prosper and reach its full potential. Without the fast track, there would be no security track, but a security track without a fast track would also be of little use.

Step-by-step plan

During an internal business continuity exercise for the fast track, the SRCWB identified that it is responsible for about 20 critical processes. These include tasks like alerting, risk monitoring, deploying emergency services, decision-making, and legal obligations. To ensure public safety, these processes must be maintained at all times. In the event of a prolonged power outage, such as the one in Spain and Portugal at the end of April 2025, these processes face serious challenges. Some may fail completely or be shut down. The SRCWB can rely on around 1,800 employees (including 1,300 volunteers, 200 professionals, and 300 support staff) who can be deployed to keep operations running in such situations. The question is: who will be assigned to what tasks? And what reliable resources and structures are needed to keep everything functioning smoothly during such a crisis?

The SRCWB's process consisted of three steps:

1) Based on an internal survey, a picture was obtained of the degree of resilience of the organization as perceived by its managers.
2) these insights were then tested with the management team (MT) of the safety region, and decisions were made about which strategic choices needed to be made regarding resilience, and
3) Finally, the extended management team (MT+) was responsible for fleshing out the strategic priorities set by the MT. The MT+ includes around 25 managers from various departments such as finance, human resources, procurement and contract management, strategy, and development. Below, we will examine each of these steps more closely.

Survey

With a 72-hour power outage scenario in mind, we presented a questionnaire to all SRCWB managers (n=33). This questionnaire, developed by Domínguez-Ortega and his colleagues (2024), identifies the factors and skills that, together, reflect an organization's degree of resilience. This survey is based on Duchek's model of organizational resilience (Duchek, 2020) and supplemented with factors that influence the various skills or capacities. The factors form the preconditions for resilience and are based on structures and elements that are already present in the organization, such as knowledge, social resources (both internal and external), available resources (including financial, material, data, etc.), strategy and management of the organization, leadership and shared responsibility within the organization, and finally, organizational culture.

The skills (referred to as 'capabilities' by Duchek) are at a cognitive and behavioral level within the organization (Duchek, 2020) and indicate how respondents think and what they do regarding the various elements. This pertains to the extent to which an organization can observe and identify potential threats, prepare for unexpected situations, and manage crises:

1) Does she accept the new situation quickly?
2) Does she develop and implement solutions?
3) Does she consider her own actions?
4) Does she learn from them?
5) Does she apply those insights in the organization by starting and reinforcing the necessary change processes?

Converting the survey results into various diagrams offers deeper insights into skills or capabilities (Figure 1) and the factors or preconditions (Figure 2). However, the results do not definitively indicate how resilient an organization is. They only show the collective perception of everyone in the organization who completed the questionnaire. Since the respondents are only from the MT and MT+ groups, it is reasonable to assume that these managers should have insight into the organization's strengths and weaknesses. Therefore, these results should give a good indication of the level of resilience.

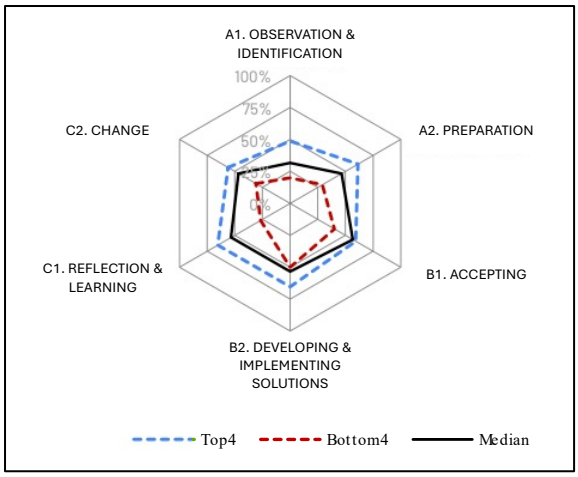

Figure 1: Results 'Skills' SRCWB

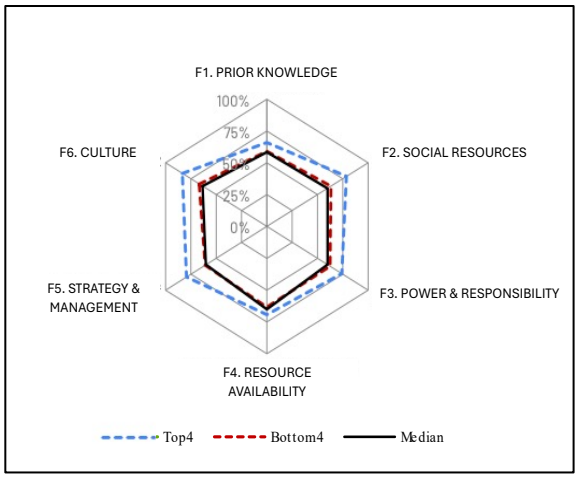

Figure 2: Results 'Factors' SRCWB

Since we are working with a limited dataset (33 respondents), drawing meaningful conclusions from the results is impossible. Therefore, a 'Top 4' and 'Bottom 4' sample was selected; this data includes the eight respondents who scored highest (Top 4) and lowest (Bottom 4) on 'organizational resilience'. An important indicator is the visual gap between the Top 4 and Bottom 4; this reflects differences in perspective regarding a specific factor or skill and is useful to explore during a group discussion to understand where those differences in interpretation originate.

Looking at the results of this survey, it seems that, according to SRCWB managers, the factors are not that relevant for promoting resilience (because there is a small 'gap' between the Top 4 and Bottom 4). The factors (Figure 2) paint a more homogeneous picture than the skills (Figure 1). In terms of skills, it is striking that 'acceptance' and 'developing and implementing solutions' score higher in both the Top 4 and Bottom 4. These two elements refer to the 'coping phase' (Duchek, 2020): the phase in which an organization confronts a crisis and must act. For an operational emergency response organization, this seems a logical score. When we compare this with a similar survey of managers from 16 fire departments in Flanders and Brussels[2] (Figure 3), it appears that the SRCWB's score for 'acceptance skills' is rather low (55% for the SRCWB versus 65% for the Flemish fire department). However, this does not say anything about the actual degree of resilience in both regions, but rather about differences in perceptions of one's own resilience and others'. However, given that the respondents belong to the management team (MT) and the extended management team (MT+), it can be assumed that this group of managers has a good understanding of the strengths and weaknesses of the organization and that these results therefore provide a relatively accurate picture of the organization's resilience (Kristensen et al., 2025). In addition, the participatory approach of the workshops ensured that any bias or guesswork on the part of participants about their own strengths and weaknesses was adjusted to a picture that better reflected the organization's reality.

[2] This data was collected between November 2023 and April 2024 from 23 fire department managers who took the OFF4 training course.

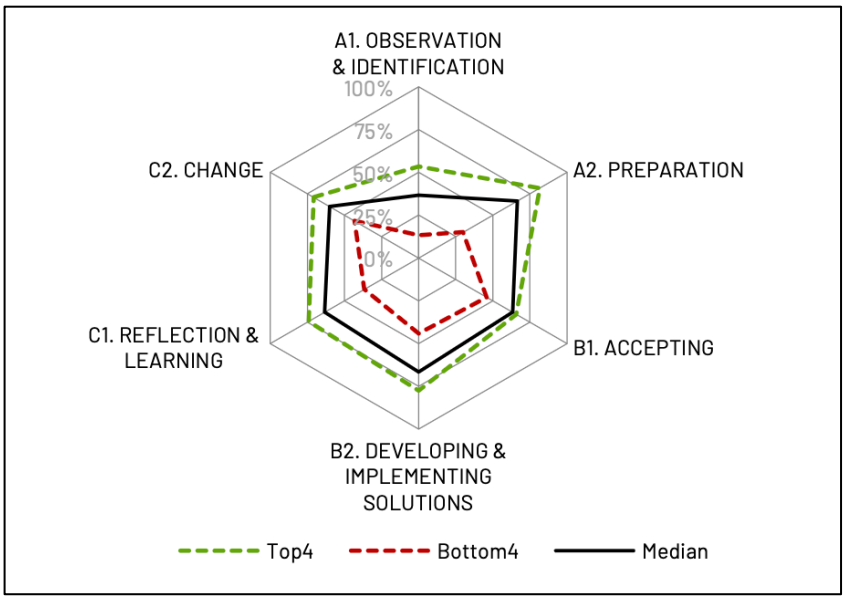

Figure 3: Results 'Skills' among managers of the Fire Service in Flanders and Brussels (n=23)

The discussion and interpretation of the survey results were part of workshops organized with members of the Management Team (MT) and the extended Management Team (MT+).

MT workshop

One question we asked the MT and MT+ during the workshops was whether these mostly stable factors offer a good balance to the highly varied scores in terms of cognitive and behavioral skills. We also inquired if they believe some factors are more important or relevant than others when it comes to making the organization more resilient. Resilience is less about what an organization has and more about what it does. In this way, the different factors serve as the preconditions for the skills needed to take the appropriate actions during a crisis.

Based on the survey results, we collaborated with the MT during an off-site workshop to identify which factors could be implemented and which skills could be improved. Using two scenarios, a prolonged power outage and a cyberattack, the MT members were asked to prioritize six factors (or preconditions) and six capacities (or skills) that collectively contribute to resilience (see Figure 4).

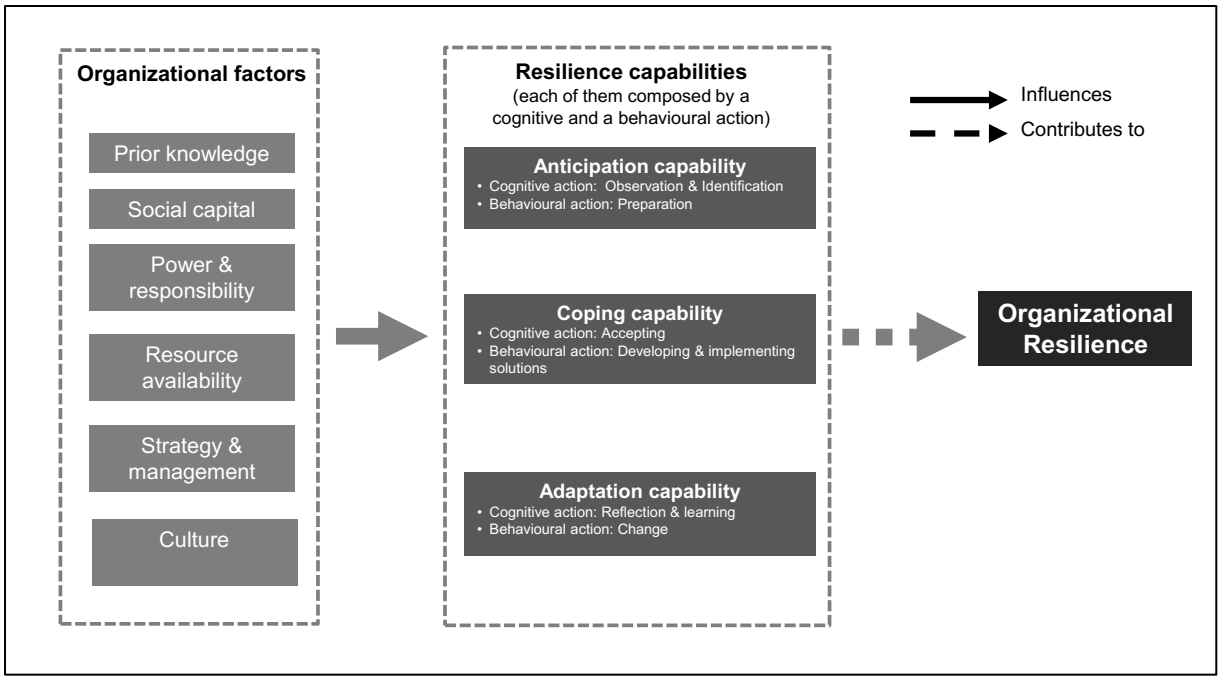

Figure 4: Factors that influence the skills contributing to organizational resilience.

A concrete example illustrates how this strategic thinking exercise unfolded. The survey revealed that there is a reasonable gap between those who believe that investments are made in training for challenging situations during the preparatory phase. The Top 4 scores 60%, while the Bottom 4 scores 20%. During the MT's strategic discussion, it became clear that there is a need for additional education and training to prepare everyone for the correct course of action during a challenging emergency situation such as a 72-hour power outage. This need is supported by an average score of 37% on the point "Improvement of individual and collective courses of action." Extra education and training, then. But the survey shows that they themselves indicate that there are insufficient financial resources (median score is 38%) and supporting measures (median score 37%) available to deal with unexpected situations. Consequently, investments must be made not only in training, but also in resources and measures. A shift in priorities and budgets is therefore urgently needed. However, in the survey, the members of the MT and MT+ indicated that effectively implementing changes within the organization is very difficult (median score 23%) and that managers are not the best "change agents." This raises the question of which strategic choices are a priority and which are not.

Specifically, the MT was tasked with making choices and indicating which figurative "buttons" in the organization need to be turned and which processes are most important for greater resilience. And how much time and resources should be allocated to this? It was decided to focus on "social resources" and "prior knowledge" as preconditions, and on 'preparation' and "reflection and learning" as skills.

The choice of "prior knowledge" is logical because the organization lacks specific knowledge about certain crisis scenarios. The focus on "social resources" was implemented through the decision to increase cooperation with partners in the broader emergency response chain (such as the police, defense, water board, etc.). Getting to know each other and coordinating in

advance was considered an absolute priority in order to be prepared for severe and prolonged disruptions to the organization's own operations. Of the six elements that together constitute the capabilities of a resilient organization, the MT focused primarily on "preparation" for a crisis. This involves more than just investing in the purchase of equipment; it also involves reorganizing work and introducing new methods and knowledge. The skill "reflecting and learning" was chosen based on the consideration that change is only possible if sufficient reflection is given to the strengths and weaknesses within one's own organization, and then action is taken to learn in order to introduce and develop new methods and working practices within the organization.

The MT also chose not to focus on certain factors and skills. This decision was made for one of the following reasons:

1) The organization is already strong in this area and does not need to focus on it further, such as "accepting" an emergency situation: this is often a natural reflex for emergency responders.
2) The organization is already focusing on specific factors and/or skills within the 'fast track' program (for example, the skill of 'devising and implementing solutions' requires both additional resources and training; two elements that are already part of the 'fast track'), or
3) The organization chooses not to prioritize certain factors and skills because it considers the need to be particularly small or because it can rely on partners from the network in case of an emergency (e.g., the skills 'observing and identifying' were discussed extensively, but ultimately it was decided to call on partners from the emergency services chain for this – hence the decision to allocate extra resources to 'social resources').

Based on the MT's strategic decision regarding the factors and skills they consider most important for greater resilience, the extended Management Team (MT+) set to work a few weeks later on how those strategic choices should be implemented in practice.

MT+ workshop

Whereas the MT had previously determined the main priorities, it was up to the MT+ to propose concrete initiatives and practical measures a few weeks later. To this end, two brainstorming sessions were organized, based on the exact scenarios from the MT workshop (namely, a prolonged power outage and a cyberattack). In the morning, the group, divided into teams of five MT+ members, set to work on the factors (prior knowledge and social resources) the MT had identified as essential to the organization's resilience.
Participants were asked to reflect, based on the scenario, on:

1) How is the organization currently positioned to anticipate the threats posed by each scenario?
2) What are the ideal measures that need to be implemented to avert those threats?
3) What concrete actions need to be taken?

The members of the MT+ were then asked to categorize these actions into 'imminent horizon' (to be started this year) and 'intermediate horizon' (to be implemented over the next two years). Participants in the subgroups jotted down their ideas and proposals on post-it notes and shared the results of their discussions with colleagues in a plenary session. This resulted in an interactive exchange of questions, additional explanations, and further elaboration of certain proposals. The results are shown in Table 1—the actions listed are not in order of priority.

MT choice	Imminent horizon	Intermediate horizon
Prior knowledge	Inventory and communicate what plans exist today and where they are stored.	Raise awareness about one's own role in case of certain situations (e.g., power outage or cyber-attack) and raise awareness about possible personal measures.
	Make arrangements around updating plans; so that they are reviewed at least biennially.	Improve the retrievability and usability of plans.
	Take a position on appropriate action recommendations for the various internal stakeholders and communicate them (e.g., what to do in the event of a power outage). Have a policy on retention of crisis plans. Make sure they are available in different media as well as on paper.	
	Store useful phone numbers (such as help desk) in your phone.	
Social resources	Create a visual overview of all stakeholders in the Safety Region.	Maintain more contacts on an interregional, national and international level. Invite others and visit them.
	Ask other organizations (i.e., first responders) to share their lessons learned after incidents, emergencies or crises.	Share own preparatory work with external stakeholders so that they know well where we stand in terms of preparation.
	Create or arrange for a refresh of arrangements for fallback locations.	Prepare clear requests for help for partners (first responders); how can they help the Safety Region when certain processes come under pressure or when certain resources are lacking?

Table 1: Actions proposed by MT+ members to strengthen 'Factors'

In the afternoon, the teams were reorganized and tasked with preparing and reflecting on capabilities and learning. The same consultation method was used here as well. At the end of the day, the ideas were discussed in a plenary session with two MT members present to ensure

that no ideas were lost. The joint results of this exercise are shown in Table 2. Also, the actions listed here are not ranked by importance.

MT choice	Imminent horizon	Intermediate horizon
Preparation	Devise an internal scaling structure and provide an internal crisis plan. In it, make it clear when it is a crisis and how command and control then differs from day-to-day operation.	Prepare some scenarios around hacking and ICT failure.
	Ensure accessible backups of important information, especially information where the Safety Region is the authority. Make arrangements with vendors.	Organize crisis exercises at every level, from management to local volunteer stations.
	File a current summary of important information (e.g., fire hydrants) away every month with the appropriate authority.	Test technical resources from the 'fast track' four times a year.
	Send phishing emails internally more often as a test to raise awareness.	Provide an emergency kit for the internal organization.
	Check whether emergency generators can be used to keep energy from solar panels usable (islanding).	Consider how you can support employees to get their own household in order in the case of an emergency.
Reflection & learning	Keep a structural record of lessons learned in a database so that common threads and trends can be seen.	Consistently build in reflection during a crisis situation.
	Distill improvement points into action items. Designate those responsible for their implementation and follow up.	Make reflection and learning a focus point for 2026.
	Consult a behaviorist to seek advice.	
	Set a good example yourself. Members of the MT and MT+ could put more time into reflection and learning themselves, and should allow others that time as well.	

Table 2: Actions proposed by MT+ Members to strengthen 'Skills'

It is now up to the MT to evaluate these ideas and implement several of them, aiming to strengthen the organization's preconditions, capacities, and overall resilience; similar to an athlete beginning a training program to enhance performance in the 400-meter hurdles and javelin throw, thereby elevating his decathlon level. Meanwhile, the Safety Region has initiated follow-up by translating the insights into a Business Continuity Plan. This will ensure continuity in work processes and, consequently, improve the SRCWB's resilience and robustness.

Conclusions

Three steps are necessary to build organizational resilience. First, clearly assess the organization's current position on the key factors or preconditions for resilience, including knowledge, social resources, available resources, strategy and management, leadership and shared responsibility, and organizational culture. Also, identify the skills or capabilities that enable the organization to respond effectively to unexpected situations, such as observing, identifying, accepting, developing and implementing solutions, reflecting and learning, and changing. Next, make strategic decisions about where to concentrate efforts and where to hold back, determining how budgets, time, personnel, and resources will be allocated to prepare as thoroughly as possible for any disruptions. The third and final step involves leveraging the organization's internal knowledge to create concrete solutions and develop actionable plans.

This process of increasing resilience at the Safety Region Central and West Brabant illustrates how a resilience project can be practically approached and highlights several important points. For instance, it demonstrates that resilience mainly depends on making deliberate decisions about what your organization will prioritize and what it will not. It also emphasizes that resilience is not just a concern for 'management,' but requires involvement from the entire organization. The process of making strategic resilience choices also warrants attention. The survey not only helps identify perceptions of one's own resilience but also supports the decision-making process for which factors and skills need improvement. Middle management will be better equipped to make these decisions and develop practical actions to implement them, thereby boosting the safety region's resilience and flexibility. This approach also promotes greater support and engagement within the organization. Ultimately, resilience is measured by how well an organization leverages its knowledge, expertise, leadership, social resources, and similar assets during a crisis to create and execute solutions that prevent or stop the crisis.

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