SAVIT Tabletop Game: a serious game to support the integration of spontaneous volunteers in disaster risk management

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ABSTRACT

Despite the wide range of solutions available for integrating spontaneous volunteers into Disaster Risk Management (DRM), formal actors often remain hesitant to involve spontaneous volunteers and frequently lack the capacity to plan for and coordinate their engagement effectively. This paper presents our experience in designing and evaluating a serious board game intended to support DRM actors in exploring existing solutions and reflecting on how these can be adapted to their specific contexts. Following a design science approach, the game was iteratively developed and refined, then evaluated in three collaborative workshops involving a diverse set of stakeholders. Data were collected through observation and structured debriefings. The workshops demonstrated that the game helps participants identify concrete, actionable solutions for potential implementation. Moreover, the gameplay fosters greater awareness of other actors' perspectives and needs, thus strengthening collaboration across organisational boundaries. The design and development of the serious game reflect the fact that such artefact serves multiple purposes: conceptual, pragmatic and epistemic.

Keywords

Spontaneous volunteers, Volunteer help integration, Serious game, Disaster risk management, Societal resilience

INTRODUCTION

Spontaneous volunteers (SVs), also referred to as unaffiliated, emergent, informal volunteers, are individuals or groups who offer help during disasters without belonging to an established emergency or volunteer organisation. They mobilize independently, often motivated by altruism, attachment to their community, or simply an urge to do something and contribute in the face of an adverse event. They may arrive at different moments throughout the response and recovery phases, or in advance of foreseeable events. SVs can be local residents who are first on the scene of a disaster, or individuals who converge later toward affected areas where support is needed.

The phenomenon of spontaneous volunteering (SV), including its opportunities and challenges, has been widely discussed in the literature (e.g., Whittaker et al., 2015; Daddoust et al., 2021). SVs provide crucial and immediate assistance, bring in local knowledge, expand the capacity of actors in Disaster Risk Management (DRM), bring in a wide range of skills and resources as well as creativity to solve emerging problems. Despite operational and societal benefits, their involvement raises several challenges: many SVs lack knowledge of hazards, proper equipment, and safety procedures; large-scale convergence can create operational and logistical bottlenecks; responsibilities and liability in case of injury are often unclear; and formal response organisations may lack the capacity to coordinate them effectively.

To make use of the opportunities while mitigating the challenges, a variety of solutions supporting the integration of SV into DRM have been developed and implemented worldwide. These include strategic and operational guidelines such as the Australian AIDR handbook for planning SV (AIDR, 2018), procedures and technological platforms such as Ready2Help in the Netherlands which supports onboarding and coordination (Schmidt et al., 2018), communities of practice such as ROHCMUM in Canada that leverages the resources of community and

humanitarian organisations[1], and sharing platforms such as Dopomoha in Romania developed to support refugees[2]. Despite the availability of such solutions, many formal DRM actors continue to perceive spontaneous help as a "double-edged sword".

To guide public authorities, response organisations and civil society organisations (CSOs) in the exploration of wide variety of potential approaches and in the reflection about how relevant solutions can be adapted to their own context, we have developed a serious game, SAVIT Tabletop Game. Serious games, by leveraging elements of gamification (e.g., interaction, fictional scenarios, game boards and cards, cooperation and competition), create opportunities for collaborative learning and structured decision-making around complex topics. Through a scenario-based approach, SAVIT Tabletop Game places players representing different disaster-related roles and perspectives in a realistic disaster situation and guides their exploration of approaches to integrate SVs in DRM, supported by SAVIT Catalogue, a detailed catalogue of existing solutions also developed in our research.

This paper presents the iterative design and evaluation of SAVIT Tabletop Game and describes the feedback from players regarding usability and usefulness. We conclude with reflections on the nature of such serious game as a product of research and development, as well as a research method.

RELATED WORK

Spontaneous volunteering

Prior to the design of SAVIT Tabletop Game, we conducted an investigation of the topic of spontaneous volunteers (SVs) and their integration in DRM. While some findings are presented below, a comprehensive analysis is provided in Branlat et al. (2025). The expression *spontaneous volunteers* is understood here as covering a number of notions discussed in scientific or grey literature, including, for instance, community self-help, convergence, emergent groups or unaffiliated volunteers. In our research, we align with the definition of SVs proposed by Australian Red Cross (2010): "*individuals or groups of people who seek or are invited to contribute their assistance during and/or after an event, and who are unaffiliated with any part of the existing official emergency management response and recovery system and may or may not have relevant training, skills or experience.*" This definition captures several key aspects of our understanding of SVs: they refer to individuals or groups; they act spontaneously (on their own initiative) or can be invited to help; they are characterised by the absence of affiliation with organisations from the formal management of disasters; in spite of their informal status regarding disaster management activities, they represent a wide variety of skill and experience levels, including directly relevant professional expertise.

It has been noted for decades in the literature (e.g., Fritz and Mathewson, 1957) that the phenomenon of convergence of SVs to help during crises creates both opportunities (it is even often necessary) and challenges (e.g., additional demands, risks and chaotic situations). Their proper integration in DRM is therefore a key issue. We understand their integration in a broad sense, including aspects such as promoting volunteering, implementing effective systems to support volunteer participation, defining meaningful roles, providing resources, developing knowledge and skills, protecting health, safety and wellbeing, recognising volunteer contribution, etc. Over the past decades, many recommendations and approaches have been proposed and implemented around the world. Our research has identified such solutions. We describe and classify them in SAVIT Catalogue, a database of such solutions. During the game, these solutions constitute potential approaches for addressing the challenges and opportunities identified through discussions.

Several key concerns arise regarding the integration of SVs in DRM, stemming from the unpredictable nature of participation, the potential lack of formal training or negative interference between the contributions of SVs and the work of formal actors. This often contributes to negative perceptions of SV by formal actors. SV is considered as a burden, disruptive to organised operations, difficult to manage and a drain on resources (e.g., Grant et al., 2019; Schmidt et al., 2018; Sauer et al., 2014). Studies indicate the absence of clear laws, regulations, and planning to integrate SVs (e.g., Daddoust et al., 2021; Paciarotti & Cesaroni, 2020; Paret et al., 2020), as well as the lack of resources (Harris et al., 2017; Sauer et al., 2014). The work of Nahkur et al. (2022) indicates that several European countries are taking limited moves towards opening their traditional command-and-control structures to the participation of SVs. An effective integration of SVs requires organisational changes and approaches to manage volunteers and ensure their safety and well-being. SAVIT Tabletop Game and Catalogue are means to discuss how this can be done.

[1] https://www.preventionweb.net/organization/reseau-des-organismes-humanitaires-et-communautaires-des-mesures-durgence-de-montreal
[2] https://dopomoha.ro/en

DRM serious games

Surveys of serious games developed for DRM show a substantial and growing body of work, with development accelerating notably after 2020, likely driven by advances in digital technology and the rising demand for interactive disaster response training. Two major reviews, by Solinska-Nowak et al. (2018) and Ducatti et al. (2025), offer differing perspectives due to their methods: Solinska-Nowak et al. identified 45 non-commercial DRM-expert-developed games through web searches, while Ducatti et al. identified 65 games through a systematic literature review. Both studies show that serious games target a broad range of stakeholders, including authorities, relief organizations, volunteers, citizens, and vulnerable communities.

The DRM phases identified vary across the two studies. Solinska-Nowak et al. found most games focus on pre-disaster preparedness and risk awareness, promoting risk awareness, preparedness, and mitigation, whereas Ducatti et al. observed a historical shift from response-oriented games (until 2018) to preparedness and more diversified phases, including mitigation and reconstruction, after 2019. Both studies show that floods, earthquakes, and droughts are the most common hazards represented, while only a few games are designed to be hazard agnostic. Games are also often embedded in specific cultural contexts, limiting generalizability.

Most games are multiplayer, emphasizing dialogue, interaction, and collaboration. Role-playing is the most common pedagogical method, enabling participants to explore diverse perspectives in realistic scenarios. A narrative-based approach, closely related to SAVIT Tabletop Game, uses storytelling to spark discussion. To our knowledge, no game addresses the topic of integration of SV. The surveys identified two games related to mutual aid and community involvement. While the game proposed by Yanagawa et al. (2016) is a participatory training method used to prepare local communities to earthquakes, the game proposed by Arakawa et al. (2024) is a digital game to enhance disaster prevention education, focusing on self-help and mutual aid. None of them target DRM actors.

Key design recommendations based on the surveys include using tangible elements, balancing educational content with problem solving, ensuring qualified facilitation and debriefing, keeping materials accessible and low-cost, defining clear target groups, and conducting early user testing. We have followed these recommendations in our work.

Focusing specifically on the integration of SV, SAVIT Tabletop Game thus addresses an unexplored topic. It is hazard flexible and avoids fictional role-play, instead engaging participants in their real-world roles and expertise. SAVIT Tabletop Game fosters collaboration, reflection, and mutual understanding. Solutions in SAVIT Catalogue guide the players in addressing challenges raised during gameplay, supporting practical problem solving in spontaneous volunteer integration.

BACKGROUND

The design of the game and the game activity are tightly related to our previous and ongoing work. We present the main elements in this section.

Conceptual model

Based on results from detailed analyses of cases conducted in a previous project (e.g., Fiskvik et al., 2025) and a more recent review of the literature on spontaneous volunteering (Branlat et al., 2025), we developed an initial conceptual model for integrating SVs.

Real-world crises situations analysed show that a wide variety of actors are involved in an event, including spontaneous volunteers, i.e. actors such as individuals or groups that are not expected to participate in the preparation, response or recovery. Moreover, events show that who is acting (formal or informal) depends in part of the moment of an event. In fact, there are moments during which the only people acting during a disaster are informal actors, for instance those present at the scene before the emergency responders arrive immediately after an earthquake or a terrorist attack. Later, other informal actors might also come from further locations to provide additional help (the phenomenon of convergence mentioned above). The question of *who is acting when* allows for the identification of moments of particular interest relative to the role of spontaneous volunteers and their interactions with formal actors. We have identified seven stages of a disaster event, which differ in terms of the support the population can provide, the needs that arise, and the actions formal actors may take to integrate SVs. The stages are mapped onto the traditional phases of disaster management in Figure 1.

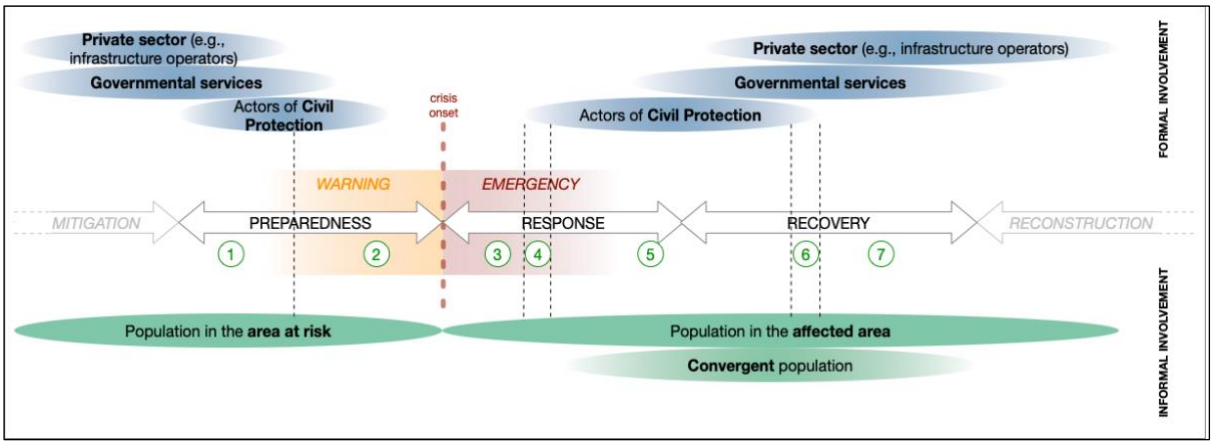

Figure 1. Stages of events relevant for the integration of spontaneous help

The analysis of recommendations and solutions for the integration of SV (e.g., identified during the literature review and through specific papers such as Nielsen, 2024) allowed us to identify various specific tasks that need to be supported. We organised these tasks in five main functions and sub-functions relevant to the integration of spontaneous help. The needs and actions of formal actors related to the stages in the figure above correspond to the five main functions and underlying sub-functions. These functions are summarized in Table 1. *Due to space limitations, only the main functions and one example of task are presented in this paper.* More information on the conceptual model is provided in Branlat et al. (2025).

Table 1. Functions for the integration of spontaneous help

Functions	Description and examples of associated sub-functions
Creating the conditions for the integration of informal help	The contribution of the population needs to be recognised, and potential challenges need to be known and anticipated. *Example*: Enhancing and addressing regulations
Communicating and sharing information	The population has critical information about the situation and local context, and accurate information needs to be available to guide actions of the population. *Example*: Gathering local knowledge and needs
Onboarding informal help	Informal helpers participating in the operations need to be known and accounted for. For instance, this involves mobilising, identifying capabilities, briefing. *Example*: Assessing the potential contribution
Coordinating and managing informal help	Once informal helpers are integrated in the operations, their activities need to be coordinated and supported by information or resources. *Example*: Providing resources to accomplish the tasks
Following up on involvement	Informal helpers might have been impacted and need to be able to share their experiences to support learning from events for all actors. *Example*: Recognising volunteer contribution

Catalogue of Solutions

SAVIT Catalogue is a catalogue of solutions designed to support the integration of spontaneous help into DRM. Its purpose is to assist DRM practitioners in exploring available approaches to spontaneous help and to inspire potential solutions for specific needs. The catalogue presents a diverse subset of solutions that support different functions, rather than aiming to be exhaustive.

Solutions were identified through a literature review, web searches, and input from pilot cases in SYNERGIES. Each solution is briefly described and classified according to five non-exclusive categories: Policy or recommendation, Guideline or plan, Methodology or procedure, Community of practice, and Technology. In addition, the extent to which each solution supports the defined functions presented above (See Table 1) is indicated using a 0–4 scale (none, low, medium, high), and relevant sub-functions are listed.

RESEARCH APPROACH

Our research follows the design-science paradigm (Hevner et al., 2004), a problem-solving paradigm aimed at creating solutions that enhance organizational effectiveness and efficiency. Whereas behavioural-science approaches focus on studying how implemented solutions are used and what benefits they generate within organizations, design-science approaches emphasise the development and evaluation of artefacts intended to address identified organizational problems. The term artefact is used broadly and may refer to models, methods, software prototypes, or other constructs that contribute to solution development.

Design-science research follows an iterative process that enables a progressively deeper understanding of the problem and refinement of the proposed artefacts. The creation and assessment of these artefacts are itself central to advancing problem understanding and improving subsequent design iterations. In other words, the production of knowledge about what is needed and what is useful is a cyclical *discovery process* fuelled by the development of artefacts that capture this understanding and are evaluated in meaningful tasks (Roesler et al., 2005). Importantly, design science paradigm does not prescribe specific research or evaluation methods; rather, it allows the selection of appropriate methods based on the nature of the problem and the type of artefact being developed.

Three iterations were carried out in the development of SAVIT Tabletop Game. Each version of the game (artefact) was evaluated in a collaborative workshop involving a diverse group of stakeholders, including authorities, responders, and NGOs. The workshops, involving around 15 persons on average, were conducted in different countries and tailored to disaster scenarios relevant to the local context. Data for the evaluation were collected through direct observation and structured debriefing sessions.

Along with the evolution of game components, each iteration was an opportunity to improve data collection means. Throughout the process, a key aim was to evaluate the game and capture data indicative of usability, perceived usefulness and potential adoption. In addition, games sessions allowed for further knowledge gathering, especially about the underlying model (e.g., relevance or completeness of functions identified), insights about the topic and additional solutions. Data collection means consisted of:

- Observing the use of the game, which evolved from unstructured notes to observation notebooks filled out by facilitators.
- Capturing game outcomes of the game: pictures of the board showing the selected cards, filled out player boards capturing the analysis of actors, functions, solutions and implementation factors, filled out blank solution cards.
- Capturing participants' reflexions and feedback through templates, open discussions and standardized questionnaire.

SAVIT TABLETOP GAME

A first source of inspiration for SAVIT Tabletop Game came from existing serious games known to us or identified during SYNERGIES, particularly those focusing on mutual aid in crisis or DRM. These included for instance *La Fresque de la crue*[3] ("the flood's fresk"), a scenario-based game designed to raise public awareness and encourage reflection on climate-related flood risks. Although many of these games primarily target a broad public audience and serve educational or participatory purposes, their structure and mechanics appeared adaptable for engaging professional participants. The general design philosophy underlying SAVIT Tabletop Game was then framed as follows:

- Physical format: SAVIT Tabletop Game is a physical board game complemented by access to SAVIT Catalogue.
- Scenario-based design: The game uses locally grounded scenarios that reflect the specific context (hazards, locations, characteristics, and formal and informal actors) and span the full DRM cycle.
- Stakeholders: The game is played by participants representing diverse stakeholders, each acting in their real-world roles.
- Reflection-oriented purpose: The aim is to encourage reflection and awareness of realistic challenges and opportunities rather than to manage or solve the presented situation.
- Collaborative and competitive dynamics: The game is played in teams, combining collaboration within teams with light competition between them, in order to stimulate collective exploration of situations and potential approaches.

The design of SAVIT Tabletop Game builds on other research outputs developed within our project, notably the conceptual model and SAVIT Catalogue described earlier. The design has evolved during the research cycles.

[3] https://www.paris.fr/pages/la-fresque-de-la-crue-de-la-seine-et-si-on-s-immergeait-dans-une-crise-pour-mieux-l-anticiper-33118

The main components of the game that were iteratively refined include:

- Main board: A central board based on the conceptual model organizes the game rounds and serves as a shared reference during collective game phases.
- Player board: Each team receives a player board to guide its analysis of the scenario elements at each round (e.g., identification of relevant actors and needs).
- Solution cards: A curated set of solution cards derived from SAVIT Catalogue. Each card presents the solution type, geographical origin, mapping to the main functions, and a short description. A typical deck contains 24 cards supporting a variety of functions (See Figure 2).
- Handouts, such as a scenario booklet describing elements of the evolving situation and a reference function booklet providing definitions for the functions and sub-functions from the conceptual model.

The gameplay is structured into several rounds. It begins with an introduction led by a facilitator, who distributes the materials and guides participants as they familiarise themselves with the game components and SAVIT Catalogue. Each subsequent round corresponds to a new phase in the scenario, during which teams analyse the situation at hand, identify and discuss a potential solution by completing their player board (especially by determining the critical functions at the stage, selecting a solution that best supports these functions and reflecting upon factors of implementation. At the end of each round, teams present their selected solutions, and all teams vote for the preferred option. Once all rounds have been completed, the session concludes with a debriefing to reflect on insights gained, discuss implications for practice and provide feedback for further development of the game.

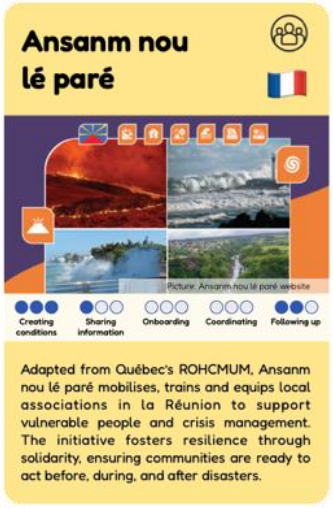

Figure 2. SAVIT Tabletop Game: solution card example

DESIGN AND TESTING CYCLES

The game in its current form was developed in 2025 over a period of about 6 months, through 3 main iterations and based on parallel work on content (model, solutions). During these iterations, the structure (scenario based, rounds based on model stages) and game principles (collaborative) remained essentially unchanged. However, various elements evolved based on experiences in conducting the game and participants feedback: gamification aspects were introduced and game material evolved, including handouts aimed at guiding group work and data collection means. More details about the iterations and the feedback received can be found in (Branlat & Floch, 2026).

First iteration

The first iteration of SAVIT Tabletop Game was conducted in the Netherlands and used a flood-risk scenario. This version reflected the initial structure of the conceptual model and used initial set of solutions. A key objective was to gather feedback on the model through gameplay. No gamification elements were included at this stage, and the activity was akin to a tabletop exercise; instead, the focus was on identifying directions for design. Eight participants took part in the session, most of whom were experienced members of operational organisations (e.g., Red Cross, Fire Department), several participants reporting regular or occasional experience with SVs. They were organised into four teams, and the session lasted approximately two hours.

Overall, feedback on this first version was positive. Discussions remained lively and engaged, and participants expressed satisfaction, noting that the game helped them learn about the topic through the conversations it generated. Input from both participants and the facilitator pointed to several improvement needs:

- Include gamification elements to make SAVIT Tabletop Game more engaging.
- Retain an overview of solutions and their link to key functions, possibly in another format.
- Reduce reliance on SAVIT Catalogue during the play, as time pressure made consultation difficult; essential solution information should therefore be included directly in the game materials.
- Streamline the scenario, as the existing script contained too many details; future versions should focus on fewer events or injects.
- Integrate the model's timeline into the game components, for example as the main board.
- Simplify the shared notebook, which was valuable for capturing reflections (e.g., expectations about population behaviour) but was used inconsistently and became cumbersome as the session progressed. A lighter version focusing on comments and reflections, combined with integrating actions directly into gameplay, is recommended.

Figure 3. Teamwork: introduction of the conceptual model during the 1st workshop (upper left), team collaboration during the 2nd workshop (upper right), pitching during the 3rd workshop (lower)

Second iteration

The second iteration of SAVIT Tabletop Game was conducted in Malta using an earthquake-risk scenario. Building on feedback from the first iteration, it retained the overall structure while introducing several gamification elements, including a central playing board, card decks, and mechanisms to foster collaboration and friendly competition. Fourteen participants took part, most of them experienced members of emergency services, law enforcement, civil protection organisations, or authorities. Many reported occasional experience with spontaneous volunteers, and one participant reported regular engagement. Participants were organised into four teams, and the session lasted approximately three hours.

The main observations were:

- High engagement: Participants were actively involved in discussions and in searching for approaches using the solution cards and SAVIT Catalogue.
- Extensive use of solution cards: Cards were frequently consulted, though some participants noted limited time to fully absorb their content. The presentation of functions on the cards guided attention toward relevant solutions.

- Use of blank cards: Three blank solution cards were provided to propose own solutions. Participants used them to express ideas for adapting existing tools rather than proposing new solutions.
- Limited use of other cards representing actors and functions: Although these were important discussion topics, the cards themselves did not provide sufficient added value. New mechanisms were explored to better capture these aspects in following versions.
- Notebook effectiveness: The notebook helped teams record their understanding, chosen solutions, and rationale each stage. It also prompted consultation of SAVIT Catalogue to enrich their analysis. However, the quality of entries varied across groups, suggesting that a simplified version may improve consistency.
- Time constraints: The debrief and final reporting phase had to be shortened due to time limitations; the planned "debrief report" sheet was not used.

Overall, participants expressed satisfaction with the game, highlighting its usefulness and transferability to other contexts. The iteration in Malta confirmed the effectiveness of the overall game structure and represented a significant improvement over the prototype tested in the Netherlands, particularly with respect to greater participant engagement, more specific discussions of solutions, including local relevance and implementation aspects, and higher quality of collected data.

The experience of conducting the workshop and feedback received suggested different directions for further improvement, especially related to (a) improving usability by simplifying mechanisms for capturing and discussing relevant functions, actors, and implementation considerations, and (b) introducing tools such as structured observation sheets to help facilitators gather data linked to evaluation criteria. In addition, given the substantial amount of content to be covered, discussions arose to strengthen time management. This led to the consideration of the value of two different versions: a longer, full-cycle version covering all stages of the model, and a shorter version enabling initial exploration of the topic.

Third iteration

The third iteration of SAVIT Tabletop Game was conducted in la Réunion, France using a cyclone-risk scenario. It followed the same overall structure as previous iterations but introduced several refinements informed by participants' feedback. Key evolutions included:

- Simplification and integration of gamification elements, streamlining gameplay while maintaining engagement, especially through the introduction of player boards.
- Development of a manual incorporating the scenario and instructions, making the activity more self-contained and less dependent on presentations.
- Translation into French, enabling use in the local language. All game components were manually translated, while parts of SAVIT Catalogue were translated automatically.

Eleven participants took part, representing regional and local authorities, local associations, civil protection organisations, a social housing organisation, a university, and a game development company. They brought varying levels of experience in their professional roles and with spontaneous volunteers. Participants were organised into four teams, and the session lasted about two hours.

The following feedback was collected regarding usability:

- Clarification is needed for certain terminology and game elements, particularly if the game is to be used with the general public.
- The star-based indication of function coverage on solution cards was helpful for orienting participants, but it must remain accurate to avoid misleading players.
- The interface of SAVIT Catalogue was not always intuitive (e.g., accessing details, searching, filtering). A familiarisation phase may be beneficial before gameplay.
- Player boards were considered very useful, whereas the main board was perceived as less essential for gameplay, although valuable for synthesising results.

The following feedback was collected regarding perceived usefulness:

- All participants contributed actively, and discussions were detailed and well-grounded in the scenario context.
- Many participants reported enjoying the activity and considered it a practical way to learn about relevant approaches.
- The solution cards were regarded as highly informative.

Additional reflexions regarding the organisation of the gameplay and the facilitation emerged:

- Participants debated advantages and disadvantages of larger versus smaller teams.
- Future versions should simplify mechanisms for data capture to ensure systematic and usable information for both organisers and participants. For example, instructions to photograph player boards were not well followed, and observation sheets were only partially used. Better integration of data-capture mechanisms into the gameplay flow would reduce the burden of data completeness and increase completeness.
- Future versions should further simplify mechanisms for data capture to ensure systematic and usable information for both organisers and participants. Better integration of data-capture mechanisms into the gameplay flow would reduce the burden of data completeness and increase completeness.

This third iteration was also used in Estonia in two events, one with students, the other with civil protection agencies. Besides a translation and locally-inspired scenario, it included minor adjustments, mainly aimed at further facilitating data collection.

DISCUSSION AND CONCLUSION

The design and development of SAVIT Tabletop Game reflect the fact that such game artefact serves multiple, interrelated purposes related to the complexity of knowledge translation in DRM research and practice. These purposes are conceptual, pragmatic and epistemic. First, the game captures and instantiates, in a simplified and accessible form, conceptual knowledge generated through prior research (Stav et al., 2024). This process creates a strong incentive to clarify and operationalise abstract concepts, making them legible to diverse, usually non-scientific, audiences. In the context of SV integration, this means that nuanced conceptual models (e.g., typology of SVs, needs for and conditions enabling their effective involvement) must be rendered in a form that is both engaging and operationally meaningful. Second, the game addresses a pragmatic objective by enabling concrete insights and the identification of concrete potential approaches by DRM practitioners. In other words, it constitutes a tool for stakeholders' capacity-building related to a specific and challenging (i.e. not straightforward) topic: it allows participants to anticipate events and envision ways to improve their activities in a simulated, low-stake environment. Third, the game serves as a research method in its own right, addressing an epistemic objective. The facilitated sessions serve to generate new knowledge: they deepen understanding of how SVs are perceived by DRM actors, reveal tensions and contradictions in existing conceptual models, and allow to collect novel approaches or solutions that had not been anticipated in prior research. The game thus represents a dual position, functioning simultaneously as an output of research and as an instrument for its continuation.

The experience of playing SAVIT Tabletop Game with stakeholders (emergency managers, civil protection authorities, volunteer coordinators, and other DRM actors) demonstrates that it constitutes an engaging methodology that allows participants to explore and contextualise content, which might otherwise be encountered in a more passive format (e.g., a more traditional written form). Compared to accessing information about integration solutions through SAVIT Catalogue, SAVIT Tabletop Game creates a substantially richer discovery process. Participants are invited not merely to read about issues and approaches, but to encounter them through a scenario that aims to capture or let emerge the opportunities and trade-offs inherent in real-world SV management. This richness can be attributed to several key features:

- The game is *interactive*, which makes it more engaging than static content delivery. In particular, an interactive format might better sustain attention and encourage active processing of information.
- By design, it also aims to leverage *collaborative and diversity of perspectives* and key learning and problem-solving mechanisms: participants work together in small groups, which creates conditions for the expression and negotiation of multiple, potentially divergent perspectives within a context that is playful and safe. This collaborative dimension is particularly valuable in the DRM field, where coordination between actors is critical, but opportunities to interact outside of actual events are difficult to find. The game provides a space in which different logics can be expressed and examined without the stakes of real operational decisions.
- Finally, the game is grounded in a *concrete*, locally-relevant scenario that participants can relate to their own context, facilitating the transfer of insights and creating inspiration for real-world applications.

A consistent observation across sessions is the central importance of facilitation – both at the level of overall game management and at the level of participant groups. This distributed facilitation serves multiple functions: steering the flow of the game to ensure that objectives are met, stimulating group dynamics to encourage deeper engagement with the material, and also simultaneously observing and collecting data. This underlines that SAVIT Tabletop Game is not a self-contained tool: the quality of facilitation significantly shapes the quality of sessions' outcomes. Future iterations of the game should therefore consider and guide facilitation and data capture further,

for instance through training and the development of guidance materials that support consistent delivery across different organisational and cultural contexts.

Regarding the replication of research, all elements of the game will be made available for download and use under Creative Commons CC-BY 4.0 license via the project's website and CMINE / the Disaster Risk Stakeholder Hub. The specific open repository that will be used to host the observation guidelines and the detailed research results is currently under investigation.

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