Improving Crisis Management Using Existing Digital Infrastructure and Databases

Summary

There are many studies about crisis management, but much development is still to come in the context of e-governance and e-services. In different possible crises, the crucial key issue is to get quick overview of the region to make right decision and activate crisis' action plans to save lives. Countries must be ready for different threats and key issue is to find right ways how to conduct ICT and e-services development with crises management. This research problem is to find a better e-solution for apartment associations, local municipalities, and governmental organizations to prepare for different crises, using modern technology, available e-services, and databases to develop the readiness and improve cooperation. Connecting community and social activism with governmental e-services have a vast potential. The main problem to solve is to offer new e-service to get an overview of all the apartment associations in the district, and their needs, mapping all the vulnerable people in the district together with categorizing what are their living conditions and needs in the possible crises, getting direct contact with people, and together planning crisis plans and developments. Key point is close linkages with local communities using e-services. The objective of this doctoral dissertation is to consolidate and systematize the best practices in crisis response and preparedness, and to develop a comprehensive e-service model that enhances readiness and ensures optimal coordination during crises. This model aims to safeguard human lives, protect assets, and facilitate successful recovery and resilience in the aftermath of crises.

Research field:	Information and communication technology
Supervisors:	Prof. Dr. Ingrid Pappel
	Silvia Lips
Availability:	This position is available.
Offered by:	School of Information Technologies
	Department of Software Science
Application deadline:	Applications are accepted between January 01, 2025 00:00 and January 24, 2025 23:59 (Europe/Zurich)

Description

This goal of this PhD project is to find a better e-solution for apartment associations, local municipalities, and government organizations to prepare in cooperation for different crises. Practice has shown that there is not enough workforce in massive crises in different countries, this project should show how to use modern e-governance tools and services, to minimize the need to use human workforce, how to improve IT-systems, e-governance technology, and databases, to maximize to crises management result, make better communication, provide help, and save lives. The research idea is to combine all this work under one e-service.

The outcome of this work would be a framework of a new e-service, which is a proposal of crises management tool for different counterparts in crisis management. Apartment associations' role in crisis management is specific, and they have a role in civil society. Now it must be developed further in the context of e-governance.

As covid-19 pandemic showed, it is important to improve existing solutions using growing e-governance possibilities. Although, Estonia has huge e-governance capabilities and well-developed services, it is needed to look at the possible solutions from a broader view.

The aim is also to analyze the experience of other countries to implement the same new e-service model in other countries that are facing same kinds of crises, which require an overview of the population's situation and the best plan for solving crises. Separately could be highlighted focus on elderly people, as this age group needs the most assistance and extra help in crises. It is necessary to integrate the practices of various countries to identify and develop an optimal e-service model that can be consolidated into a single, effective e-solution.

The author should evaluate the new e-service idea during the interviews with the crisis management experts and investigate case studies in different countries. It is important to use both qualitative and quantitative analyses. In addition, there are already different official crises plans, which will help to guide this study.

The research answers the following questions:

1. What are the key features and methodologies of crisis response practices across different countries, and how do they contribute to effective crisis management? What are the best practices?
2. How to improve digital cooperation between local governments and apartment associations, government organizations and local citizens to prepare for crises? How to connect people's activism with e-government efforts to prepare for crises? Which existing e-services can be consolidated under one e-service for crises planning?
3. How to create a digital infrastructure that would guide the preparation for crises and give a full online overview of all the apartment associations, including vulnerable people in the area? Can this e-service guide the crises management plan creation?
4. What technological and infrastructural challenges must be addressed when consolidating diverse crisis management practices into a single e-service model?
5. How do cultural, legislative, and operational differences among countries affect the adaptation and implementation of an integrated e-service model for crisis management?

Responsibilities and tasks:

1. Map existing digital tools for crises management and assess their relevance. Conduct an extensive review of academic and practical literature on crisis management practices and e-services in various countries. Identify existing frameworks, methodologies, and outcomes associated with crisis preparedness and response.
2. Develop proposals and actionable recommendations for countries for a new crises management e-service, which improves preparedness and helps to monitor developments. Evaluate the adaptability of these models to diverse sociocultural and legislative environments.
3. Conduct qualitative interviews with subject matter experts in different countries to validate quantitative findings and proposals.
4. Evaluate the possibilities of implementing the proposed new e-service in Estonia and elsewhere in the world. Develop a prototype or conceptual model for a unified e-service solution for crisis management.
5. Contribute to the organization of research, practitioner, experts, policymakers and technology developers' workshops where project findings are presented. Identify potential barriers and propose solutions for adaptation across different regions.

Applicants should fulfil the following requirements:

- a master's degree (preferably in ICT field or engineering)
- at least 5 years of experience in public administration or local government, preferably with daily experience in collaborating on solving various community issues and fostering cooperation with community members.
- a clear interest in the topic of the position
- excellent command of English
- strong and demonstrable writing and analytical skills
- capacity to work both as an independent researcher and as part of an international team
- capacity and willingness to provide assistance in organizational tasks relevant to the project.
- working knowledge governance and digital governance.

The candidate should submit a research plan for the topic, including the overall research and data collection strategy. The candidate can expand on the listed research questions and tasks, and propose theoretical lenses to be used.

To get more information or to apply online, visit https://taltech.glowbase.com/positions/912 or scan the the code on the left with your smartphone.