

Centre Expert'crise



USING ACTIVITY LOGS TO ANALYZE CRISIS MANAGERS' BEHAVIORS DURING SIMULATION EXERCISES IN INDUSTRIAL WORKPLACE

INTRODUCTION

EXPERT'CRISE PROJECT

The Expert'Crise project aims to develop crisis management training for managers and decision-makers:

- theoretical training;
- on-site accident simulation exercises.

What happened during the Expert'Crise simulation, specifically inside room, between the crisis resolution agents?

Develop a methodology based on observation:

- to give **feedback** to managers;
- to suggest recommendations for improving emergency planning.

METHOD

1. DATA PROCESSING

The observational data collection was done through camera recordings and observation grids.

SIMULATION

		Communication			
Time	Actions	Agents		Message content	
		Sender	Receiver	Sender's words	Receiver's words
		☐Person 1	Person 1		
		Person 2	Person 2		
		□	□		
		Vector			
		☐In person	Radio		
		Mobile	Landline		
I		Computer	Other:		

After the exercise, all of the observers' grids were:

- collated, in order to avoid data redundancy if several observers took notes of the same event;
- integrated into a single database;
- completed with information from the camera recordings if grey areas remained.

In order to process the data, several indicators were identified:

- a set of issues encountered by the crisis unit (e.g. media and authorities contact);
- the **level of completion** of these issues.

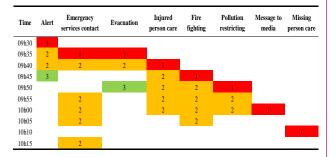
LEVEL 1: Issue raised	The issue is encountered for the first time by the crisis unit, or mentioned without being resolved or questioned.		
LEVEL 2: Issue being resolved	The issue is mentioned at least for the second time and is the subject of information, actions, questions or discussions by the crisis unit.		
LEVEL 3: Issue resolved	Crisis unit members implement actions to resolve the issue, or receive confirmation that the problem is over.		

Finally, this database includes **key information about trainees' actions and communications** linked to an issue and a level of completion.

2. DATA ANALYSIS

Each issue is now ready to be analyzed through strategic **crisis** management topics (communication, leadership inside the crisis unit, accordance with crisis roles set in the emergency instructions, issue resolution, difficulties and deviations encountered during each issue resolution, and achieving the learning targets).

A summary table can be achieved by means of a **timeline** taking the levels of completion (in the lines), and the issues concerned (in the columns) into consideration.



The issue emergence and resolution can be analyzed through:

- the crisis leadership, in relation to the interventions performed by each crisis unit member to identify the one who was leading the crisis management team;
- the accordance with crisis roles set by the emergency instructions;
- the differences between the trainees' actions and the emergency procedures;
- the difficulties encountered by the crisis unit during the simulation.

The analysis ends with a short crisis summary to check if the simulation exercise was a success concerning the **learning** targets prepared in advance of the simulation exercise.

CONCLUSION

The major challenge leading to this methodology is to achieve a cost effective trainee activity analysis. To do so, the Expert'Crise trainers chose to rely mainly on observational data.

In the end, the activity log is not as exhaustive as the initial database but it arranges raw data, classifies them into logical groups, and retains the **crisis key resolution elements** in a simple and usable way.

The purpose of this whole analysis process is to give **concrete recommendations** to help crisis units be better prepared to deal with the next crisis about crisis management:

- resources: protective equipment, means of communication, and crisis room equipment;
- organization: the definition of crisis roles, training of operators and managers, and information sharing.