On the Benefit of Mixing Varied Professional Skills to Better Handle Improvisation Phases in Crisis Management

A qualitative survey conducted in Geneva and Valais, Switzerland

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Abstract—Much research has been published on risk management, business continuity, crisis committees and resilience. There is not a day in the press when an event requiring crisis management is not reported. We have therefore taken an interest in the composition of a crisis team. To this end, we conducted semi-directive interviews to understand what were the important elements in the composition of a crisis team to better manage the unexpected. It appears that experience takes precedence over the hierarchical level of the involved individuals. It even seems preferable not to involve or at least to limit the number of members of the upper management. Although our study shows the benefits of simulations, stress test scenarios, the composition of the crisis team has to be better integrated especially to take into account emerging risks such as cyberattacks where improvisation plays a crucial role.

Keywords- crisis management; crisis committee members; improvisation; qualitative survey; resilience

I.   INTRODUCTION

Some events involve the establishment of a crisis management committee or team to return to an acceptable situation within a reasonable timeframe. The crisis committee is particularly necessary when it is assumed that the influence of the event on the internal or external environment, direct or indirect, could have a significant negative impact in the short or medium term. Although private companies or government organizations have taken into account the importance of having business continuity plans in place and, for the most serious events, crisis management, the expected resolution may not be achieved due to lack of rehearsing and training. The factors that negatively influence the successful conduct of crisis resolution can indeed vary from one case to the other. In this paper, we will focus on the composition of the crisis committee, in order to identify related characteristics that influence crisis management both positively and negatively. Our analysis, through semi-directive interviews, highlighted the benefits of having a mix of profiles in the composition of the crisis committee. The only common features of the respondents are that they have worked in the Canton of Geneva or in the Canton of Valais and, for some, they have experience in the banking sector. The events identified in our semi-directive interviews all took place less than a decade ago.

Our research shows that the diversity of profiles in crisis committees is already an integrated element in order to optimize decision-making in a very short period of time and that overall this diversity has made it possible to achieve the expected problem resolution.

In Section II, we propose a brief literature review that addresses the topics of crisis management, incident management and resilience.

Section III describes the methodology of qualitative survey that is employed in this research.

Section IV presents the synthesis results of the semi-directive interviews. Then we continue with a discussion of the main findings which constitutes Section V.

We end our paper with a conclusion indicating limitations of this study and ideas for future research.

II.   LITERATURE REVIEW

When a significant risk occurs, it is usually referred to as a disaster or a crisis. [1] describes disasters and catastrophes as events for which a society is in serious danger and suffers such impacts and losses that the social structure is disrupted and the performance of all or some of the essential functions of the society is prevented. [2] defines the crisis as an event that puts strong, destabilizing pressure on organizations facing critical situations and subject to strong external and internal pressures. Thus, the same event may be considered as a disaster or a crisis. In our paper, we will use the same definition of crisis as in [2].

In [3], the authors highlight the importance of combining risk and resilience analysis, especially for complex systems. Indeed, when analyzing emerging hazards or threats, it is difficult to identify them because they are often unknown. They give as an example nuclear power plants or space programs where errors occurred in a way that would seem extraordinary, but which ultimately had similar origins: computer problems, errors in the interpretation of indicators, not taking into account alarms, bad decisions and communication problems between the different teams for example. It is interesting to compare the "resilience" and "risk" approaches. Resilience approaches require preparation for the unexpected, while risk analysis assumes that risks are known [4]. The scientific literature on resilience is abundant [5], [6], [7], [8], [9], [10].

In the field of risk management, resilience is the ability of a system or company to cope with a disaster and recover quickly from the event. The term "resilience" has been used in physics for more than a century to describe the ability of a structure to absorb a shock or continuous pressure without breaking or being deformed. As early as 1973, Hollings [11] redefined resilience in the context of ecology at a seminar. Thus, Hollings defines resilience as the ability of an ecosystem to integrate a disturbance into its functioning without modifying its qualitative structure.

As for the crisis, [2] defines it as an event that puts strong, destabilizing pressure on organizations facing critical situations and subject to strong external and internal pressures.

Responding to crises requires thus the ability to deal with unforeseen events and adapt to new conditions, including interconnection between different infrastructures, whether critical or not. This increasing complexity of interdependencies between different infrastructures often leads to the involvement of several actors in the management of a crisis that could affect one or the other of these infrastructures. [12] investigated whether the ability to improvise collectively can explain, predict and be used to assess overall performance in crisis management. Following an exploratory study they conducted in the scientific literature on the term "improvisation", they found that existing scientific research was not sufficiently developed or detailed to achieve the objective of their analysis. Thus, the authors suggest that the links between improvisation and performance should be studied in order to better understand the effects of improvisation on collective performance in crisis management.

According to [13], crisis management exercises have a positive impact on the perception of knowledge among professionals and volunteers.

Our literature review in the field of crisis management did not allow us to find scientific knowledge about the typical composition of a crisis management committee. We however acknowledge that an improvisation phase in crisis management rely on tacit knowledge or know-how and that the members of the crisis committee will interact together relying on their own tacit knowledge. According to the SECI model [14], a newly created knowledge to be relevant must go through the following 4 steps of "knowledge transformations". First, in the Socialization step (S of SECI), people are creating new tacit knowledge out of existing tacit knowledge. Then, this new tacit knowledge is codified and becomes a new explicit knowledge. This step is called Externalization (E of SECI) and corresponds to what we call in general digitalization. The third step is the Combination (C of SECI), it uses new explicit knowledge to produce new explicit knowledge. For instance, AI can typically considered to be a Combination phase. The last step is the Internalization (I of SECI). It means that the new explicit knowledge produced by the Combination phase must be transformed into new tacit knowledge usable ultimately. In the discussion (Section V), we will build new theory on the composition of crisis committee by relying on the SECI model such as in [15] and in particular the socialization phase.

III.   METHODOLOGY

In this paper, the most appropriate method seemed to us to be interpretivism [16]. Through it, we tried to understand what were the perceptions of the crisis committees experienced by different people, whether or not they were part of the crisis committee.

In many cases, the crisis committee faces unforeseen circumstances. The composition of the crisis committee can have an influence on the proper management of a given crisis. From one company to another, from one crisis situation to another, the members of the crisis committee may indeed vary.

In order to collect data that will allow us to better understand the factors that influence both positively and negatively the successful management of a crisis, we believe that a qualitative inductive method is the most appropriate for our study. Our research was therefore based on an ethnographic approach as described in [16], which is intended to analyze the perceptions of people who have had experience with crisis management.

Our research was therefore structured around different axes:

•   We conducted a literature review in the areas of crisis management and improvisation in crisis committees.

•   We administered a series of semi-directive interviews.

•   The data collected was analyzed using RQDA.

The sampling strategy was based on a purposeful approach [17]. The profile of the 12 people surveyed occupy or have occupied different positions at different hierarchical levels in different companies. We were able to interview former CEOs and CFOs, risk managers, IT managers, general service managers and others. Their experiences and implications in crisis management were therefore different.

We have created a questionnaire with the objective of identifying the elements that promote good crisis management but also to identify those that, on the contrary, hinder the smooth running of the crisis. The questionnaire was designed to allow respondents to express themselves freely about their experiences in crisis situations but also to obtain possible elements for improvement in relation to their experiences. This data may also be of interest for future research.

The interviews began by asking a few questions to draw a profile of the respondent, including his or her function at the event, professional and/or academic experience. In our paper, we focused on the following five questions that were asked during the interviews:

1)   Tell us chronologically about one of the crisis situations in which you were involved as a professional?

2)   Who were the actors involved with you?

3)   What did not work well?

4)   What worked well?

5)   What would you have changed?

We collected data through semi-directive interviews lasting an hour on average. All interviews were transcribed and the data compiled for analysis using the RQDA tool. The results are presented in the following section.

IV.   RESULTS

The information collected through the first question allowed us to contextualize the rest of the interview. The respondents had different socio-economic profiles and experiences with crisis situations, which allows us to avoid certain biases in our study. For example, some respondents told us about events in the areas of banking, fast food, emergency services and civil protection. Nevertheless, a large proportion of respondents shared with us experiences in the field of finance, which does not run counter to the economic activities of the Canton of Geneva. An important

element of our study is that no one surveyed replied that they had no experience with crisis situations.

As for the second question, again the answers were varied, but we were able to detect some trends in them, such as the fact that crisis management is rarely managed on its own. On the contrary, the analysis of our data indicates a tendency to set up crisis committees composed of three or more people, or three or more categories/groups of people. These people or groups of people are resources from the company itself, but in 3 interviews, respondents informed us that external consultants had been solicited. The latter were involved in the crisis committee because they had no direct interest in the company. It was their knowledge of crisis situations but, above all, their neutrality towards the company that was sought. In all the surveys collected, no crisis committee was composed of a single socio-professional category and/or from the same team or unit. We were able to observe a mix of profiles in the crisis committees without being able to establish a precise rule as to its composition.

The third question focused on aspects that had not worked in crisis management. A majority of respondents confirmed that overall everything went well. Nevertheless, crisis situations have highlighted some weaknesses, some foreseeable and some less so. Some respondents told us that the crisis scenarios used for training did not necessarily include new threats such as cyberattacks. The cultural aspects of employees would seem to be neglected. For example, during the Fukushima nuclear accident in March 2011, it was planned to evacuate employees and their close families of a given company based in Tokyo to one of their offices in Europe. This was not to mention the fact that some employees refused to leave the island on the grounds that it would be a shame to leave without the parents and grandparents. Another example shared by respondents was the fact that some members of management were more interested in protecting their own interests than those of the company. A few respondents told us that it would be preferable not to involve senior management in a crisis committee, that it is preferable to bring together people with experience and/or capacity to manage crisis situations where improvisation is often required. On the other hand, the dedication of people in resolving crisis situations in the lower hierarchical layers was put into perspective.

In some crisis situations, there was a strong dependence on third parties to the company, particularly in obtaining reliable information on the crisis. Taking the case of the Fukushima nuclear accident as mentioned above, it was difficult to obtain reliable information from Tepco, the site operator, or from the Japanese authorities. Consequently, many companies had to rely on information from the USA or Israel.

The fourth question focused on those aspects that had worked well. In general, all respondents confirmed that crisis management went well, despite the weaknesses previously discussed. Our interviews revealed that the various actors were able to work hand in hand and followed the procedures.

Concerning question 5, our interviews revealed that the respondents were generally satisfied with the way the crisis situation had been managed, and consequently with the performance of the crisis committees. We were able to observe that these were composed of a minimum of 3 members with different profiles, i.e. different experiences and socio-professional categories. Respondents explained to us that the constitution of the crisis committee was not defined, in the sense that the members who compose it could be selected according to the type of crisis to be managed. In some cases, members were external to the company in order to guarantee a certain independence or to have an

external view of the crisis. Experience in crisis management takes as such precedence over the person's function or hierarchical level.

Respondents told us that the problems that occurred in the crisis committee came mainly from top managers who imposed their vision of crisis management or who were in denial. In the latter case, the top managers' behavior was described by some respondents as strange. These top managers, who were supposed to protect the company's interests, focused on protecting their own interests. We had underestimated the lack of dedication that some members of the crisis committee could suddenly show. This has been described by some respondents as one of the most devastating factors in the successful management of a crisis. Indeed, in their opinion, it is important, even essential, to have a certain cohesion, a team spirit to successfully carry out crisis management. On the other hand, employees have expressed unsuspected dedication, including a positive and solution-oriented attitude. These "shadow" employees, whose qualities in a crisis situation had not initially been identified, proved to be elements that positively influenced the proper management of the crisis.

Not surprisingly, the crisis management experience of the crisis committee members was identified by most respondents as a key success factor in good crisis management. The experience here can be translated into exposure to crisis management in the past or by having been trained in crisis management. Although crisis management involves a great deal of improvisation, respondents stressed the importance of training, as far as possible, each member of the crisis committee. This training would in a way constitutes the right of access to the crisis committee. Nevertheless, some respondents shared with us the fact that the scenarios used to date to train crisis committees no longer necessarily correspond to reality. According to them, these scenarios are often linked to problems related to buildings such as an incident, a flood, a power outage, for example. Of course, it is important to train on logistical and human risks, but we must not forget the risks related to information systems or suppliers, for example. A crisis linked to a cyber attack or a bankruptcy of a key supplier is managed in a different way than a loss of a building. In the case of a cyber attack, reaction times are very short, i.e. a few hours or even a few minutes.

V. DISCUSSION

Our research revealed that the different crisis committees that performed the best were composed of members with different socio-economic profiles and experiences and that, overall, these crisis committees were able to create a common vision based on an unstable situation. Indeed, it is not uncommon to see crisis committees in public authorities composed of representatives of civil protection, including firefighters, police officers or the army, and specialists or experts related to the event. In the remaining part of this section, we discuss the thesis regarding the composition of crisis committees that we have just stated at the beginning of the section.

Our semi-directive interviews show that companies tend to adapt the composition of crisis committees according to the situations to be managed. Three respondents who had held positions on executive committees told us that their respective companies had used external people to help them manage crises. One of the reasons given was that these people had the advantage of having no conflict of interest with the company. In addition, they brought with them new skills, both technical and personal, and an external perspective on the event. According to the respondents, these combined assets made it possible to better overcome the crisis.

A negative point that we underestimated at the beginning of our research is that of a certain form of denial that members of the crisis committee can develop in a crisis situation. These people, instead of defending the company's interests, seek to protect themselves or minimize events. Three of the respondents shared with us this problem, which, in their opinion, would be more pronounced among

people at higher hierarchical levels. On the other hand, they were surprised by the dedication of more "junior" employee profiles, whose ultimate objective was to emerge unscathed from the crisis.

Members of a crisis committee must be able to work together to resolve a crisis. The latter, with multiple strangers, often forces members to leave their area of competence and knowledge. Although technical skills and knowledge (explicit and tacit knowledge in order to refer to the SECI model [14]) can be elements that have a positive impact in crisis management. Indeed, we believe that past crisis experiences and the ability to develop rapid responses under conditions where certain parameters are missing or unreliable are essential elements to be taken into account when selecting a crisis committee member. We therefore recommend that companies select members of the crisis committee on the basis of their previous experience but also on their agility and ability to work as a team, whether they are internal or external to the company.

As an example of what we could illustrate a proper way of applying our thesis is the case of the Executive Committee of the Cantonal Command Staff of the Canton of Geneva. The latter is composed as follows:

1)   The Director General of the Cantonal Office, as Chief of the Cantonal Command Staff.

2)   The Police Commander.

3)   The Commander of the Fire and Rescue Service of the City of Geneva.

4)   The head of the Hospital Emergency of the University Hospitals of Geneva.

This steering committee of the cantonal management staff may request the support of specialists who are useful in carrying out the missions of its various units.

It is thus essential that the members of a crisis committee can work together. Indeed, [18] characterizes crisis management as rapid decision-making in the presence of several choices, in a minimum of time. Consequently, planning a crisis committee must be a decision taken by top management before an event. This crisis committee must be composed of members with experience in crisis management and be able to manage situations where improvisation is required. The members of the crisis committee must be able to regularly train to deal with crisis situations. Most training scenarios focus on logistical or human risks. In our opinion, the risks related to new information technologies or those related to suppliers are not sufficiently developed. The development of new crisis management scenarios deserves particular attention, particularly in areas related to technological risks. In an environment where companies are increasingly dependent on new technologies and interconnected with other companies, crisis management, and therefore the crisis committee, must evolve. This is why we believe that the crisis management of companies, private or public, highly dependent on new technologies and interconnected would deserve the full attention of top management but also researchers and experts to develop new methods and techniques of crisis management.

VI.   CONCLUSION

A crisis, no matter where or when, must be managed appropriately to minimize its impact. Sound risk management makes it possible to map the major risks a company could face and prepare for them as much as possible, there are situations where risks occur and can materialize into crises. These can put a strain on any company. The rigged diesel engine case revealed in the United States has had a major impact on Volkswagen's image since 2015. In some cases, companies are not recovering from

the crisis and are filing for bankruptcy, like the investment bank Lehman Brothers, which went bankrupt in September 2008 following the so-called subprime crisis.

In the context of this research, we have developed the thesis that the constitution of crisis committees must be based on the fact that its members must have very different experience profiles and in addition not come from the upper management of the organizations involved. This result comes from an empirical field survey conducted through 12 semi-directed interviews with crisis management experts and specialists.

The limitations of this research are that our approach is purely exploratory, based on semi-directive interviews. Nevertheless, this research made it possible to generate basic research hypotheses as to the creation of a crisis committee in cases requiring a strong need for improvisation (i.e. when many unknown persons are involved). In future research, we intend, first of all, to conduct a quantitative survey (based on a questionnaire administered randomly) in order to make inferences about the population studied. Secondly, we would like to test new types of operating methods for setting up crisis committees using quasi-experimental techniques with the aim of also validating research hypotheses related to human behavior.

VII.   REFERENCE

[1]   C. E. Fritz and H. B. Williams, "The Human Being in Disasters: A Research Perspective," The ANNALS of the American Academy of Political and Social Science, vol. 309, no. 1, pp. 42–51, Jan. 1957.

[2]   P. Lagadec, Le risque technologique majeur: politique, risque et processus de développement. Elsevier, 2013.

[3]   J. Park, T. P. Seager, P. S. C. Rao, M. Convertino, and I. Linkov, "Integrating Risk and Resilience Approaches to Catastrophe Management in Engineering Systems," Risk Analysis: An International Journal, vol. 33, no. 3, pp. 356–367, Mar. 2013.

[4]   T. Mitchell and K. Harris, "Resilience: A risk management approach," ODI background note, pp. 1–7, 2012.

[5]   A. Opdyke, A. Javernick-Will, and M. Koschmann, "Infrastructure hazard resilience trends: an analysis of 25 years of research," Natural hazards, vol. 87, no. 2, pp. 773–789, 2017.

[6]   G. Pescaroli, R. T. Wicks, G. Giacomello, and D. E. Alexander, "Increasing resilience to cascading events: The M. OR. D. OR. scenario," Safety science, vol. 110, pp. 131–140, 2018.

[7]   C. Fox-Lent, M. E. Bates, and I. Linkov, "A matrix approach to community resilience assessment: an illustrative case at Rockaway Peninsula," Environment Systems and Decisions, vol. 35, no. 2, pp. 209–218, 2015.

[8]   D. P. Aldrich and M. A. Meyer, "Social Capital and Community Resilience," American Behavioral Scientist, vol. 59, no. 2, pp. 254–269, Feb. 2015.

[9]   S. Meerow, J. P. Newell, and M. Stults, "Defining urban resilience: A review," Landscape and Urban Planning, vol. 147, pp. 38–49, Mar. 2016.

[10]   C. Curt and J.-M. Tacnet, "Resilience of Critical Infrastructures: Review and Analysis of Current Approaches," Risk Analysis, vol. 38, no. 11, pp. 2441–2458, 2018.

[11]   C. S. Holling, "Resilience and Stability of Ecological Systems," Annual Review of Ecology and Systematics, vol. 4, pp. 1–23, 1973.

[12]   T. Frykmer, C. Uhr, and H. Tehler, "On collective improvisation in crisis management – A scoping study analysis," Safety Science, vol. 110, pp. 100–109, Dec. 2018.

[13]   R. W. Perry, "Disaster Exercise Outcomes for Professional Emergency Personnel and Citizen Volunteers," Journal of Contingencies and Crisis Management, vol. 12, no. 2, pp. 64–75, 2004.

[14]   I. Nonaka, R. Toyama, and N. Konno, "SECI, Ba and Leadership: a Unified Model of Dynamic Knowledge Creation," Long Range Planning, vol. 33, no. 1, pp. 5–34, Feb. 2000.

[15]   E. Fragniére, B. Nanchen, R. Ramseyer, P. Kuonen, B. Larpin, and P. R. R. Wilk, "Fieldwork Analysis of Figurants' Involvement in an Airplane Crash Simulation in Order to Improve the Realism of the Exercise," in 2019 8th International Conference on Industrial Technology and Management (ICITM), 2019, pp. 147–151.

[16]   M. N. K. Saunders, P. Lewis, and A. Thornhill, Research methods for business students, Eighth Edition. New York: Pearson, 2019.

[17]   P. N. Ghauri and K. Grønhaug, Research Methods in Business Studies: A Practical Guide. Pearson Education, 2005.

[18]   S. Ruelle, "Continuité d'activité et gestion de crise: de la technique à l'humain," Securite et strategie, vol. 10, no. 3, pp. 32–40, 2012.