

15th ICCRTS  
“The Evolution of C2: Where Have We Been? Where Are We Going?”  
C2 Approaches and Organization

## **A Strategic Incident and Crisis Management Concept**

Henrik Friman, Ph.D.  
Research Director  
Swedish Defence Research Agency  
SWEDEN  
Telephone +46 70-602.7602  
E-mail Address: 0706027602@telia.com

### **Abstract**

In 2005 I began a process of exploring the application of military command and control principles to the world of private businesses. The resulting model of Incident and Crisis management (ICM) system, may be said to be influenced by the military C2 framework and yet not necessarily entirely true to this framework. Nevertheless, the ICM system has proved to be useful for crisis management situations for business in the needs for pro-activity and company holistic approaches, as well as guiding and integrated approach to public affairs and business intelligence.

One of the challenges to consultants and researchers attracted to command and control theories and allied approaches has been to translate theoretical thoughts in ways that engage business and organizational leaders in effective development processes. Some developers of these frameworks caution against introducing their terminology in the workspace. In this text I present an integrated approach to C2 in crisis management and show how it has been used in our work as consultants and researchers. The focus here will be on the initial data gathering process that sets the stage for pro-activity and group coordination. The approach has been effective in helping executives and their teams to identify change strategies that help them achieve their objectives as team of leaders. This work is an illustrative example of good-practice of the evolution of C2 and the future development.<sup>1</sup>

**Key words:** strategic, incident, crisis management

---

<sup>1</sup> Even though the company within this study asked to not be named I like to thank this organization’s Head of crisis management and his team for all support to develop thoughts and functionality of strategic incident and crisis management. Without their knowledge and skills in this field this work could not had been done, thank you!

## Background

The consulting assignment was initiated by the Communications Director in a major company in its industry. The Company had at that time a crisis function with related policies. It was clear that the Company, on paper, had good structures and clear roles and responsibilities with regard to its crisis management<sup>2</sup>. Some training in crisis management had also been carried out in order to further develop and prepare this function. The Company had mainly focused on the production side of the business when it comes to crisis management. The Company had experienced some incidents that tested the company's crisis management function. Those incidents showed that the Company had been well prepared to handle what best could be defined as *functional crises* but had limited strategic co-ordination. In those cases they have been able to handle the incidents in a way that does not put employees or the public at risk.

A crisis is by definition when something unexpected occurs that cannot be dealt with using daily routines and functions. It is on these occasions that management is put to the utmost test, and when a failure can be critical for the company's future. In order to handle the crisis, measures are required that rise above the ordinary business, and clear leadership and ability to communicate with the parties concerned are necessary.

Incident and crisis management actions are not only built on generic concepts. Every organization and situation has unique solutions. Working with crises is to learn from the past in order to create room for action in the future. A first step toward professional crisis management is to see the consequences of a failed one. It is critical in a difficult situation not only to see the difficulties, but also the possibilities. The organization's management's responsibility to actively work to ensure that the crisis does not develop without being turned into something positive (Ullmer, Sellnow, & Seeger, 2007).

In this text you will find an illustrative example of an approach to incident and crisis management that was developed from both conceptual and empirical bases that have at least the three major differences from traditional crisis management functions.

1. **Proactive** incident and crisis management function at strategic level.
2. **Broader** and more holistic incident and crisis perspective that involves a number of perspectives such as financial, functional, relations and strategic perspectives.
3. **Sustainable** incident and crisis management function that could work over time, not just when an event appears.

The following work has not the ambition to be a scientific study but should be seen as an illustrative example based on a scientific approach. The study shows how a strategic crisis

---

<sup>2</sup> In this work defined as emergency management.

management concept can develop and function.

## CONCEPTUAL FRAMEWORK

### **Building a strategic incident and crisis management function**

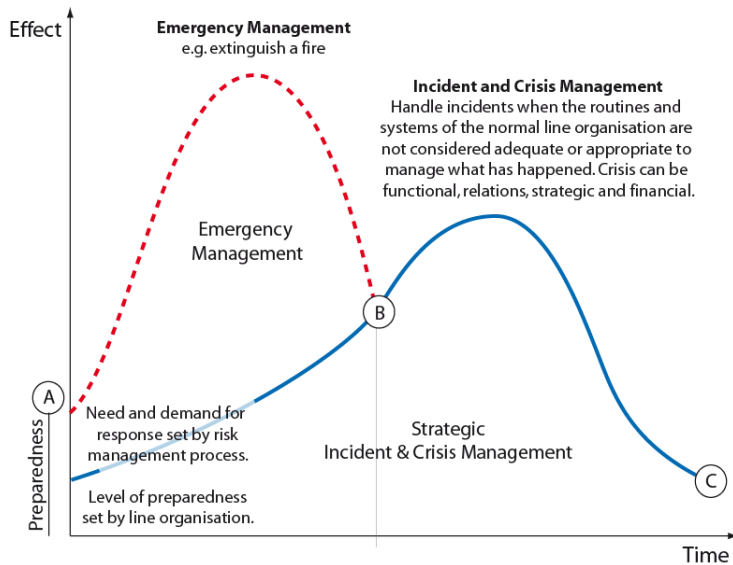
Organisations that cannot handle their incident and crisis management risk losing essential values if anything happens. Even though it is usual that companies have limited ability and capabilities to handle incidents and crises, many organisations have a reactive function that activates first after a situation appears. In order to be pro-active there is a need for situation awareness, which could be represented to the senior leadership in a relevant way and in due time. By creating awareness at the highest level means that the organization's various functions can be strategically coordinated early if something unwanted happens. Past experience shows that without senior management support and immediate action is delayed the work, which can be extremely costly for the organization. This means in the development of an incident crisis management is a key function. The design of the incident and crisis management process builds on a strategic management of information content, whose results are being presented by the situation picture which is a basis for decision making and follow-up.

The main purpose of strategic incident and crisis management organization is to ensure that all relevant parties and key functions receive relevant information, and that necessary resources are made available in an incident or crisis situation. The key resources in the incident and crisis management organization are the crisis management and crisis communication competence. In order to avoid a so-called creeping crisis, the incident and crisis management organization has the mandate to initiate specific activities in situations where no clear event has triggered the activity. This routine gives the organisation the advantage to be pro-active and in advance if a critical situation might appear based on indications rather than events.

In the literature there are quite a lot written about emergency management and crisis management at the societal, political science. There is considerably less written on strategic management at the enterprise level. Perhaps the closest literary field is what is written in Military Command and Control (C2) theory, a literary field that has come to be built up over the last decade. This conceptual framework is strongly influenced by military C2 theory, developed in relation to the Network Centric Operations. It has been especially the importance of manage information, the ability to reduce uncertainty and how to contribute too adaptively. Similar logic and arguments can be transferred to modern business and special situations that are characterized by high uncertainty and demands for adaptability, type crises.

## The framework of incident and crisis management

Incident and crisis management could be described in two phases. The first one (dotted red curve) is to resolve the immediate situation and the second one (solid blue curve) is to resolve a more long-term consequences of the incident/crisis. This is illustrated in the figure below:



The first phase, the emergency management (dotted red curve) is always handled by the line organization. The second phase, the incident and crisis management (solid blue curve) is usually handled by the line organization, but, depending on the scale of the incident, it may be handled by the incident and crisis management organization on the organisations top level, which could best be described as the strategic incident and crisis management.

The structure and lines of information proposed are designed to provide a chance to shift focus from crisis management to crisis prevention. The incident and crisis management structure is a central function for a proactive leadership and management concept. The design of the incident and crisis management process builds on a strategic management of information content. The concept of gathering common information content that describes events, reference data, status, plans and trends enables leaders to faster take back control over unwanted situations. In order to do so, the organisation needs to have a set of sensors available that could monitor target situations and events. The information from those sources and sensors must be structured, analysed and risk assessed. Risk assessment of an event can be based on probability, impact and timing.

### Four main categories of a crisis

Within business management there are a number of main forms of crises. Four of the more frequent forms of crisis referred to are:

- Financial crisis            In the short term this could mean lost liquidity and in the long term bankruptcy.
- Functional crisis        Directly linked to the company's operation and a threat to its production, services, administration or management, for example lack of safety routines or defective staff handling.
- Relations crisis         Often described as communication crisis, where negative publicity can generate

debate and opinion which negatively will affect the company's opportunity to act.

Strategic crisis

Can occur if for example the market changes or when the general debate forces on extensive changes in the company's business idea.

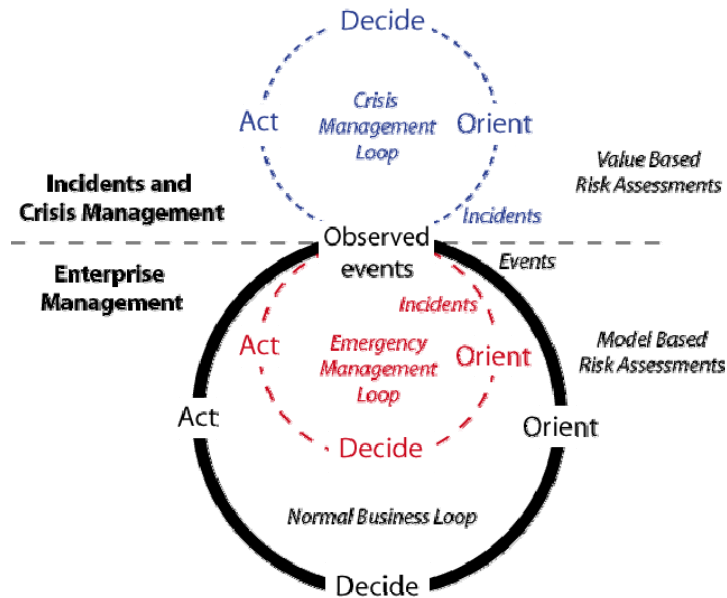
All crisis categories, in most cases, require quick action in order to minimize the risk of negative transfer. The condition for a quick response is that management has rules and routines for its actions. Even if management cannot completely suppress the arisen situation, it can relieve the effects as well as concentrate its work contribution on the problems that lack thought-through solutions. For companies all four categories of crises can become reality. The most likely event would be a relations crisis where technically very strong companies will have problems with the external communication toward the public whose emotional thoughts cannot be answered in a credible way. In order to succeed with relational crises, technical facts as well as emotional issues must be addressed. Companies are also at risk of strategic crises when the ideological directives by the political governance make it more difficult to manage the company's commercial interests.

Each category of crisis described above is normally assigned to a separate function within the company. The chief finance officer (CFO) is responsible for financial crisis, functional crisis will be handled by the chief of operation (COO), relations crisis is head of communication and strategy crisis will direct involve the chief executive officer (CEO). The challenge is that a crisis by definition will involve the company as whole and rapidly will be a CEO and board room issue. This means that crisis is a CEO responsibility and incident and crisis management therefore needs to be closely related to the CEO office and co-operate government process.

### **The incident and crisis management process**

The incident and crisis management function should handle all the information that describes the current situation in an organisation but also describe the past and expected coming, such as predicted scenarios and risks. The function must describe the current perceived situation in an organisation concerning the receivers function. This could be done by distributing particular situational pictures with ability to be designed after a functions needs. The content in each situation picture for respective function should be able to be screened and designed based on decisions depending on the situation. The situation picture must be aligned with an incident and management communication plan in order to identify receiver, channel and content.

Incident and Crisis management is to prevent incidents and crises from occurring, to support incident handlings and lead crisis activities. The key term is event. Events that is likely to happen, events that actually have happened and learning from foreseen and actual events. Events are the trigger for both Enterprise Risk Management (ERM) and incident and crisis management, and are thereby the intersection between the two processes.

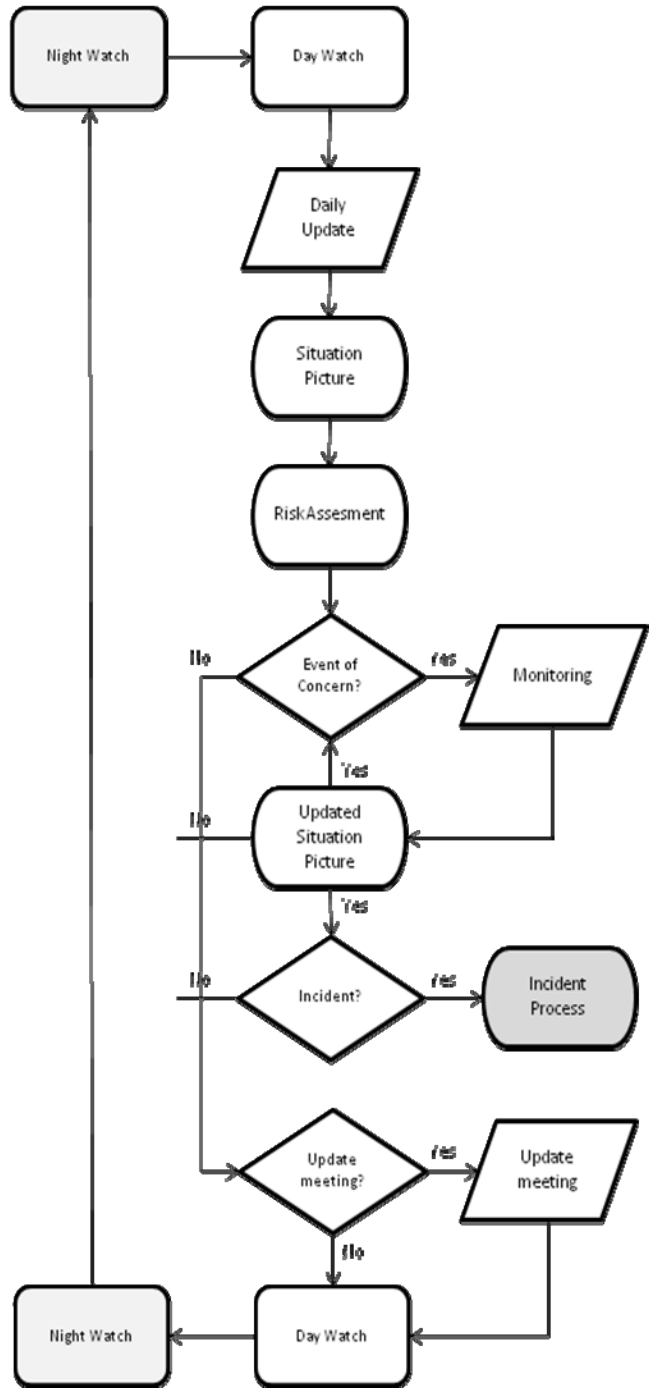


Generally business process could be described as the dynamic of; observing, orienting, deciding and acting (Boyd, 1987)<sup>3</sup>. The starting point is the observation of an event. If the event is not considered to be an incident or a potential for an incident or crisis it is ordinary enterprise management of orientation of objectives, decisions of actions and implementation of actions that lead to new observations (black loop). If the event is an incident like an accident the Emergency Management function starts, which is also considered to be an ordinary function well planned and prepared beforehand (red loop). Both processes are based on a model based risk assessment. This means that the Enterprise Risk Management has evaluated risks and proper steps of actions beforehand.

The challenge occurs when the event is considered to be an incident that falls outside the existing risk models, which creates a demand for value based risk assessments (blue loop). This happens when the crisis management organization is activated. Depending on the risk assessments the organization will take different rules and functionality.

---

<sup>3</sup> It could be argued if, Boyd is the most appropriate point of reference. In this work Boyd has been selected because his work is known among crisis managers, who often have their origin from military careers, and sees the OODA-loop a good example of military C2 theory. In order to build more robust theoretical framework, other references should be considered.



The incident and crisis management process is an ongoing 24/7 operation. The normal status of the process is the monitoring mode, which means that events of concern are followed and analyzed and preparation activities are initiated.

The daily process starts with a day watch followed by a daily update. At this morning brief the current situation picture is updated. Based on the situation picture a first risk assessment is presented, and it is decided what the relevant event of concerns is. Not all identified events could be closely followed. Four basic questions are asked:

1. Is there a risk for a crisis?
2. Is there a risk for an incident?
3. What needs to be monitored?
4. What is not needed to be monitored anymore?

Depending on what mode (monitoring, supporting or leaning) the incident and crisis function is running different individuals are involved in the process.

In the processes the line organizations experts are directly involved and could easily be alerted on what events of concerns that are active. Those experts are important components for evaluating consequences and decided ambitions and activities for each event of concern.

*Illustration: Daily process of ICM function*



## **Summary of the conceptual framework**

Presented conceptual framework above is a limited description of the concept, which includes much more components such as technologies, methods, personal and structures. But, for the purpose of this paper and to illustrate and argue the need for change in strategic incident and crisis management, we hope that it is rich enough in its description. The conceptual framework describes how to;

- move from being an emergency structure to becoming a proactive incident and crisis management function.
- broaden the perspective from functional oriented emergency management to a broader approach that includes financial, functional, relations and strategic issues. The broader perspective will also increase holistic approach for incident and crisis management within the organisation.
- organize a sustainable incident and crisis management function that could work over time, and not just when an event appears.

## **EMPIRICAL EXAMPLE**

The conceptual framework is evaluated (validated, tested) using the experiences found in an organization that has incident and crisis management functions in place and has been exposed to situations where the functions were used (employed, exercised).

### **Description of the Data set**

This study is best described as a quality analysis, a snapshot of how central stakeholders understood the need for incident and crisis management and their role in such process. The focus group for this study was the 250 top managers of an organisation of 32 000 employees, located in 6 different countries. Within this focus group a selection of 50 individuals were selected to be interviewed from a key stakeholder list 30 of these were interviewed. 20 were not reached, however the result of the survey is considered not to be affected, since the aim of this study is finding trends rather than find statistical significance results.

The survey is based on an open questionnaire that gives 15-20 minutes long telephone interviews. The questionnaire included six control questions and eight discussion questions. The control questions consisted of a self rating (on scale 1-5). The control questions are used to organize the results into categories. The discussion questions addressed issues concerning the design of the situation picture, by identifying expected information flows into and out from the incident and crisis management function. Data collection was carried out over a two week period in September 2008.

The data set is considered to be confounded which has implications for the data matrix design. The interpretation of concepts between culture and language creates difficulties that limit the consistency of the data sets. This result is based on basic variables without consideration of differences in culture and language barriers. And so culture and language are two confounding variables that were noted during the analysis.

In order to analyse the data a causal inference is designed based on argumentation from literature.

### The results of control variables

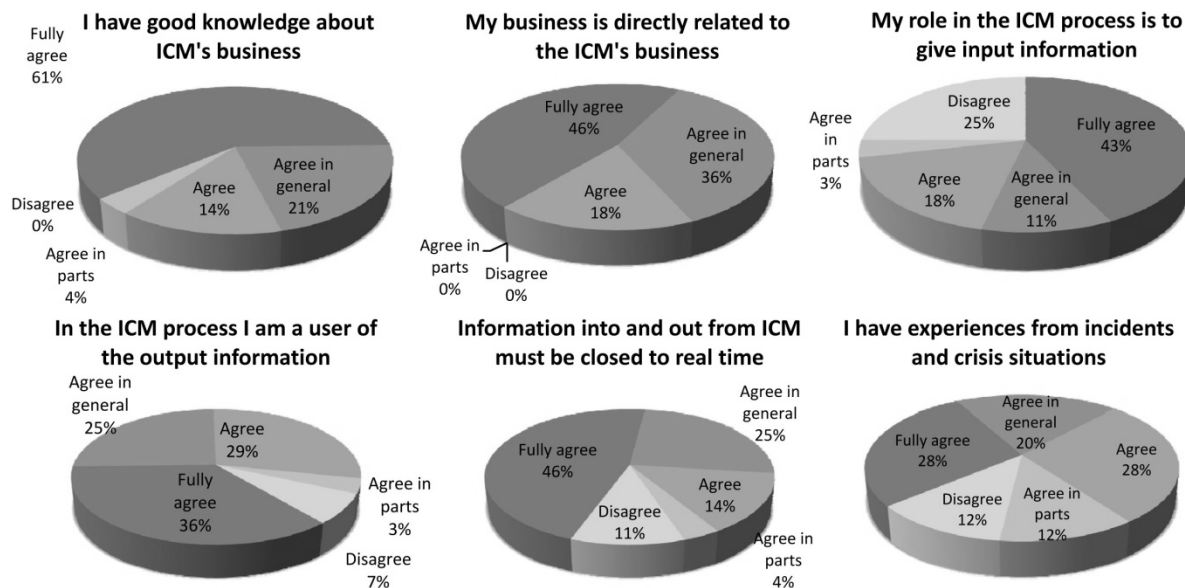


Diagram 1 – Distribution of results in control variables

The result shows that the incident and crisis management (ICM) function is well known in the organisation and considered to be related to most businesses in the organisation. A majority (46% fully agree and 36% agree in general) of the managers (interviewees) believe that they contribute information needed for the incident and crisis management function, while even a greater part (36% fully agree and 25% agree in general) consider themselves as a user of the output information. Information from incident and crisis management does not have to be close to real-time. The interviewees rated themselves as having an even spread of experience from incidents and crisis situations.

Other observation during the interviews was that:

- The general attitude towards incident and crisis management is fairly positive, some are against and some are in favour of incident and crisis management. This is because of uncertainty in the responsibility interface to other functions.
- Even if one felt that they had a good knowledge of ICM Business revealed that it was relatively superficial and without substance content. For specific questions about the process and functions as lack of knowledge.
- Each function have well-functioning reporting system, but these are primarily designed to work locally. These systems have no links with other functions and departments within the organization.
- Some interviewees indicated that incident and crisis management is a threat towards their business relations.
- A structure of authority when distributing sensitive information must be developed to secure incident and crisis managements trustworthiness.

### **Case: A breakdown in operation**

In 2009 the Company had an operation failure. The incident was of no danger to the public or the employees at location. This means that the incident was graded as an event that had no relevance to safety. Even though this minor incident lead to tremendous implications for the Company with large loses as a direct consequence.

The strategic incident and crisis management function within the Company had been operational almost a year. During this time of operation approx 600 events have been reported to ICM function. The function has been highly involved on support level in approx 30 events of concern during that time. The governance criteria for the function were;

- 1) collective situation awareness of strategic risks,
- 2) the functionality of incident and crisis management, and
- 3) positive leverage on invested capital that leads to internal and external effectiveness and effective results.

The Company certainly had an efficient strategic incident and crisis management function.

The incident occurred on a Saturday at noon. Since the event was not classified as an incident from a functional perspective, the local manager did not have to report it for a couple of days according to the standard operating procedures. According to similar situations a couple of weeks earlier the individual at site had just experience no media attention. He just called the local manger and public authority. But, the media started to act after 36 minutes, and authorities called the site in less than 45 minutes. The incident and crisis management function was not informed after 1 hour (which is against the rules (SOPs, guidance, direction) within the Company). The whole story cumulated when authorities called one of the Company's top managers who at that

time were not informed. The Company had lost the initiative and the momentum of the story and now had a long way to get back on track. In a after action analysis of this incident, the Company estimated that it occurred the situation will take three to five years before the organization has re-created the former trust of customers and shareholders.

Major critical concerns from this incident was that the Company;

- lost the public and authority's trust for safety and could be negatively targeted in coming political debates
- had a geographic overspread effect<sup>4</sup> on media regarding the incident area and to other areas in which they operate.
- never could have expected the speed of information that this incident created. None of the parties involved had previously been able to imagine how quickly the information about the relatively un-dramatic event could be developed and disseminated through media. The time to stop and think, there was never without it came directly after the event.

The Major critical concerns above framed all activities during this incident. The implication at the site, which is functionally related to safety and security, is a line organisational issue. From a company perspective the incident is a trust issue which mainly relates to a relation issue in which information sharing is essential. The information sharing could be described as follows:

- The Company loses the first critical hour in this event and becomes initially reactive
- The immediate call to the incident and management function failed.
- The media has the advantage to act before the Company.
- The right authority contacted site instead of the site contacting the right authority.
- The Executive Leadership did not receive anticipated support before being contacted externally.

A key observation from this case is that the immediate call to the incident and management function failed and created an unwanted reactive situation for Executive Leadership. The understanding of time urgency of safety information issues and impacts on trust is limited throughout the whole organisation.

### **Lessons learned from the Case**

When the incident and management function was designed we calculated *the speed* needed to respond, but every one of the professionals underestimated the time it took from being a small incident to becoming a top executive issue. The speed of development of the crises demands a

---

<sup>4</sup> Geographic overspread means that a situation that appears in one geographic area spreads over to another geographic area, like between to geographic markets or two countries.

much higher automation of information flow, and increased preparation and manning, in order to even be close to what is needed in a similar situation.

The truism “lightning never strikes down in one place twice” is not true! The importance of designing a *learning organization* is essential to the ability to handle crisis. In many discussions we had according to this incident frequently faced individuals that had limited perspectives of the concept of crisis. And, by having a clear learning perspective a broader approach could be developed that prevents improper organizational culture problems to be developed. Education and training that are based on real cases has showed to be of high value in organisational development of incident and crisis management. Weak selection process for key personal and inadequate training limits the organisation to learn fast enough.

Effective *leadership* is critical to overcoming a crisis. Leaders must be visible during a crisis internal and external and work actively to develop a positive company reputation during normal time to build a reservoir of goodwill. They need to have ability to adapt their leadership styles and contingencies during a crisis Corporations with stakeholders during a crisis and build consensus are key issues to success. A virtuous response to a crisis by the organizations leaders may be the most effective in generating support and renewal. It is their openness and honesty that makes a difference between failure and success, and will be valued after the crisis. Leaders who manage a crisis successfully may create opportunities for renewal. Poor leadership can make a crisis much worse!

Weak ownership of government processes will lead to unwanted results. Stronger governance processes that makes better use of the company management system as a governance tool and that supports the development of the Company will also facilitate the capable incident and crisis management function. It is necessary that the executive leadership makes roles and responsibilities clear for crisis management within the organisation and establishes a management control process.

The interviews and case study suggests that the conceptual framework is relevant. The interviews give descriptions of the importance of pro-active leadership and information management. Without a good structure and management of information and events with a holistic approach is very likely that only the functional imperfection of the situation resolved without strategic, relationship and financial issues are handled. The prerequisite for a strategic management can be undertaken include the management's awareness is, leadership in the organization is receptive, training takes place, roles and responsibilities are clear. As well interviews and case study showed that there is an interest in strategic crisis management and that there is a consensus on the function's importance and relevance.

## CONCLUSIONS AND RECOMMENDATIONS

As a result of the information from the conceptual framework and the empirical example, I concluded that the principles and approach of the model is accurately representing the collaborative decision making environment that exists for incident and crisis management. The proposed a new model, although not a perfect fit, which combines the elements of the theoretical and practical use is considered to be value. This model takes into consideration the incident and crisis management piece, but still allows for an individual to act without collaboration.

Surprisingly the Company's own review report from the empirical example showed similar conclusion. They identified that, even though they had an incident and crisis management function in place it was the leadership that made the difference, and at the same time the human factor showed not being fast enough to act when the event occurred (Hailes & Geis, 2009).

The conceptual framework influenced by the military command and control theories. The conclusion is that the military theories have showed to be value for private business incident and crisis management functions. The experiences and practise collected within military operations could be transformed in to real business cases. It is a number of challenges with the strategic incident and crisis management approach. One, of the most obvious might be the manning. In business oriented organisations Head of Incident and Crisis Management might not be the most attractive position for promotion. But, in the same time in what other organisation position will you have to prove your leadership under time pressure and stress, and business understanding more than in a position as Head of Incident and Crisis Management. What could be observed is that the initial barrier of getting acceptant for incident and crisis management shifts to be an inquired function that senior leadership highly value.

## References

- Boyd, J. R. (1987). *A Discourse on Winning and Losing*. AL: Maxwell AFB: US Air University.
- Hailes, T., & Geis, J. (2009). Observer warrior: an unwanted nessesity. In D. Neal, H. Friman, R. Doughty, & L. Wells II, *Crosscutting issues in international transformation* (pp. 147-166). Washington DC: National Defence University.
- Ullmer, R., Sellnow, T., & Seeger, M. (2007). *Effective Crisis Communication: Moving from Crisis to Opportunity*. Sage Publication Inc.

---

**IMPORTANT NOTES:** This paper contains facts and opinions, which the author alone considered appropriate and correct for the subject. It does not necessarily reflect the policy or the opinion of any agency or organisation, including the Government of Sweden or Swedish Defence Research Agency.

**ABOUT THE AUTHORS:** Dr. Henrik Friman, Ph.D. is research director at the Swedish Defence Research Agency, Department of Information Systems, Stockholm Sweden. His professional background is in strategic, and innovation management, time research, futurology, and command and control systems.