

# BiPSA Crisis Management



## And Crisis Management Training \* white paper

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Crises have two difficult features: they are unexpected, and they require a fast response. The first feature means that one cannot anticipate the particularities of a crisis. They come when least comfortable, they involve targets that are a surprise, they employ means that are not appreciated beforehand, they unravel according to a pathway that was never charted, or considered ahead of time. It happens with natural crises, like an earth quake and definitely with man made crisis. Terrorists aim to surprise on all counts, (and unfortunately they succeed). Being unable to expect a crisis in detail means that it can not be prepared for algorithmically. When 'the rubber hits the road' it is necessary to rely on human expert judgment, and since any of a great number of areas of expertise may become critical in the next crisis, it is necessary to round up a large number of mavens that would cover every possible area of knowledge. This need runs against the other feature of crises: they must be handled under a tight constraint of time. This in turn means that the crisis manager does not have the time for large conferences where a great number of participants will hash, discuss, propose, counter-propose, and suchlike.

So in other words a crisis manager needs to rely on human experts (not formulas, or algorithms), he or she needs plenty of them (to cover every possible needed area of expertise), and that manager cannot engage all those experts in a lengthy conference (He must come up with a decisive answer right away).



**BiPSA brings to bear the full spectrum of relevant expertise, while keeping the crisis management team small and autonomous**



These constraints will lead one to a crisis management strategy based on the following concept: a small executive team evaluates the situation and comes up with one or more solution concepts, expressed as action scenarios. These scenarios will be subsequently considered by a large group of well initiated experts. The opinions of these experts will be integrated to a summary judgment for every scenario. This summary judgment will

rank the evaluated scenarios according to the wisdom of the many relevant experts. The ranking will be forwarded to the crisis manager for his final decision.

This strategy will accomplish three critical objectives:

1. all the relevant areas of expertise will contribute to the final decision.
2. the crisis manager will not be burdened with large committees and endless debates.
3. The participants will have a powerful training tool to practice over virtual scenarios.

This proposed strategy requires valid, relevant and quality action scenarios to work on. We shall discuss below the path towards developing a good scenario to vote on, and then discuss the output of the BiPSA scenario ranking module.

**SCENARIO BUILDING:** When a crisis erupts, it usually develops fast, and its data is generated in large volumes. This data is usually collected in a hurry, if of mixed credibility, and not necessarily mutually consistent. The crisis manager must usually act on the basis of very iffy information without having the luxury to wait for clear sight.

The crisis information must then be cast against basic data collected beforehand: maps, weather, resource mapping etc.

These two classes of data, the event data, and the background data must be considered in tandem to extract from them a viable response plan. The plan must be clearly articulated so that people down the line will be able to carry it out. Every action plan has an expected result, and can be matched with a binary question: Does that action plan have a better chance to achieve the expected result, or a better chance not to? That question along with the action plan, is what is passed on to the proposed BiPSA section where this answer would be responded to by the full range of relevant experts.

Building a response scenario is a process that proceeds from concept to details, from generality to specificity. It requires high level planning skills, and must be conducted by a small well coordinated team. The team will have to cover at some depth all the facets of the crisis, so that they can assess options, risks, and ramifications. This is the module where creativity is expected. Such creativity will be enhanced by the BiPSA training exercises, in which the planning team will act on a large number of proposed virtual crises, and be challenged to find some out of the boxes resolution ideas. The more training for the planning team, the better they become when a crisis really hits. The BiPSA training will provide invaluable feedback to the planning team coming from the large group of relevant experts.

We shall discuss in brief the two feeding modules: crisis database, and general database.

**THE CRISIS EVENT DATABASE:** Each crisis is different, the unexpected and the surprise are prevalent, so it is a special challenge to build a crisis database. The construction of such base should be derived from the data parameters that are most important for the

crisis manager to decide on his countermeasures. The full range of these important parameters would be gradually defined over a series of virtual BiPSA training where the group of experts would consider a growing number of proposed crises. For each such crisis the team would define what information attributes were critical for the decision process.

The basic parameters are easy to identify. Every crisis will have to be defined by the journalistic formula of What? Where? Who? When? Why? These parameters should be identified in as much detail and specificity as possible.

Then the database will have to feature softer data: escalation scenarios and their probabilities, side effects and their probabilities, political, social, and other ramifications, and their probabilities, etc.

The crisis event database will have to allow for a large number of sources to register their information. This information is expected to be mutually inconsistent and various degrees of credibility. It should be organized in a clear way to allow the crisis manager to reach an optimal decision.

**THE GENERAL DATABASE:** To handle a crisis one needs to build a database of the environment: geographically, functionally, and network wise. The database will have to feature the available resources, and the way to contact and manage them. It will have to feature a large number of relevant probabilities. For example: what are the odds for a second earthquake? What are the chances for a devastating mudslide after a big storm? what are the odds that the roads will not be passable after so many inches of snow have fallen in the area, etc.

The general database will be refined over time. The ensuing BiPSA virtual exercises will point to more and more relevant data that should be put together and updated ready for a crisis once it erupts.

**THE BIPSA OUTPUT:** The BiPSA module attaches to each scenario the integrated opinion of the group of event experts. That opinion identifies the scenario as favorable or unfavorable, along with (1) the confidence of the group in its vote, and (2) the credibility of the vote as a whole.

The BiPSA output also parcels out the integrated opinion according to knowledge area and functions. So that the decision maker will know that while, say, the group as a whole liked scenario A very much, the opinion the expertise, in, say, psychology was mildly against it. Similarly, the decision maker will know that experts who served on rescue teams or were first respondents favor scenario B over scenario A.

Having all that information with respect to each and every scenario, the decision maker will have the benefit of the integrated opinion of the full range group of experts. This input will be regarded by the crisis decision maker as he sees fit.

The proposed scenarios were developed on the basis of database technology and inferential engines, and were detailed by a small team of crisis planners. However BiPSA brought to bear the wisdom of the relevant community at large, ranking the scenarios for the benefit of the crisis manager.

**THE BIPSA SOLUTION:** The general idea is to bring community wisdom to bear on the issue at hand, without overwhelming the planning team that must be small, tight and focused.

BiPSA does it by developing action scenarios by the planning team, and then referring to these scenarios by the larger group of BiPSA event experts. The various opinions of the group members are integrated to a single summary opinion. Such integration is possible by asking all the experts to express their opinions as a binary vote. Each vote is fed into the BiPSA neural network to impact the integration. The impact depends on pre-selected factors.

### **BIPSA STATE OF THE ART:**

When it comes to bring to bear community wisdom the prevailing mechanisms (e.g. Delphi) are mostly loose-time activity, not emergency mode. The common methods involve debates, discussions, persuasions, position paper, theses, etc. There is no time for such activity when a crisis erupts.



This leaves us with voting mechanism as the only way to bring community wisdom to bear. There are three prevailing voting parameters: restricted voting, multiple choice, and one-man-one-vote integration. The first refers to creating an exclusive group of voters, and ignoring the rest. This leads to group think, and it denies the community to the full range of its wisdom. The second refers to selecting one option out of many. It can be proven mathematically that one draws more information from a voter if the choice is binary as opposed to three or more choices to choose from. The basic reason is that in a binary mode a persistent incorrect voter has the same inferential power as a consistently correct one. In the first case the vote is simply flipped. Such flipping is not possible if the choice is threesome or more. When it comes to integration the standard way is one-man-one-vote like in a political election. The BiPSA way is to define relevant factors for each crisis, and then account for each opinion based on the association of that opinion source with each relevant factor. Thus if a crisis entail a terrorist attach on a chemical factory, chemical know-how will rank high, and experts with strong chemistry background will have a great impact. If the incident involves skyjacking than the chemist will rank less. The BiPSA manager will have to identify all the relevant factors and strive to have expert representation for all of them. The BiPSA integration is humanly visible and readily analyzed.

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