

A New Paradigm Applied: The Civil Emergency Sector

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We are facing a new paradigm driven by a discontinuity induced by technology change, i.e. the separation of information from physical goods driven by information technology diffusion.

To recap, the new paradigm has the following factors:

1. enables a massive growth in wealth
2. reduces transaction costs
3. requires trusted custodians of information
4. enables new forms of organisations
5. changes the boundaries between organisations and the market
6. creates the self-interest for people to own information defining their person
7. requires maximum storage of data to realise maximum returns

The paradigm directly changes several fundamentals in the Civil Emergency sector and ushers in a period where more change can be expected, with new technologies and concepts changing the way emergencies are detected, managed and overcome.

First, the growth in wealth will lead to new forms of threats emerging and new techniques for dealing with threats. The increasing level of integration of economies around the world and mixing of cultures within regions reduces the ability to contain threats such as pandemics and other forms of biological threats. The problem of environmental protection is increasingly recognised as a common problem for all peoples on the planet. The challenges of natural disasters are being increasingly met with resources drawn from a wide base, enabling sharing of expertise and improved outcomes for affected people – in part because the failure of critical infrastructure is becoming more serious, with the world economy increasingly centralised into economic clusters and becoming more dependent upon the unimpeded flow of trade.

Second, the reduction of transaction cost enables more sophisticated detection of threats and the monitoring progress of detected threats. The reduced transaction cost improves co-ordination of resources, enabling civil emergency groups to mobilise a higher level of response to the threat. The improved monitoring enables the tracking of identified threats back to a root cause, enabling the threats to be contained more rapidly and thus minimising overall damage from the threat.

Third, the information required for the detection and monitoring of threats is sensitive to all parties. The success of the civil emergency programme depends upon the sharing of quality information, which in turn requires trust from individuals that the information will not be misused. There is a requirement for a trusted custodian to collect and hold this information, in order to automate the detection of emergency and to provide response capability when an emergency is detected. In order for this custodian to be trusted, the custodian must have no vested interest in the civil emergency capability, or political or commercial interest which can leverage this information against the individual interests.

Fourth, the new paradigm enables new organisational forms. There is the opportunity to organise resources on an ad hoc basis to meet the crisis of the time, with new

organisational forms such as network organisations providing alternative methods for organising civil emergency response.

Fifth, the reduction of transaction costs enables civil emergency organisations to more readily mobilise resources and gain access to skills through an ongoing market process. Traditionally markets have been frequently put aside when a rapid response to a civil emergency is required, with conscription and commandeering classical techniques to increase available resources within the boundary of the civil emergency response organisation. However, such techniques fail to maximise the benefits from available resources and typically leads to a less than optimal result for the people involved. Instead, by using market mechanisms and more fluid structures, greater flexibility can be achieved, with improved response times and consequently reduced collateral damage.

Sixth, the information required to effectively detect and meet civil emergencies includes movements of individuals and locations of useful equipment. This information is a clear threat to the privacy of the individual, and can be used against the individual's interest for marketing, political or private purposes. It is in everyone's shared interest that this information is available, while it is each person's personal interest that the information is protected against misuse. The optimal protection for the individual is the property right over all information identifying the individual, enabling the individual to control access to the information, thus preventing misuse of information that uniquely identifies the individual.

Finally, the more data is collected, the greater the benefits to society from the civil emergency response. The nature of the threats requires long-term storage of information, to enable historic discovery of trends and to track early development of threats once a threat has been detected.

These changes can all be predicted by applying a new paradigm of an Information economy, but probably represent only a portion of the real benefits, many of which will become apparent only in the context of the new paradigm once it is entrenched. The consequence of these changes is a substantial improvement in the response to civil emergencies, thereby enabling improved outcomes for society. However, it can be expected that vested interests will resist change as it represents a challenge to the power of current civil emergency organisations. The ease of the transition depends on the skills and dedication of people in the sector to the consumer of their services.