Case Study:
Railtrack – Complexity and Disaster

The information in this document is part of the Deltar ‘Level 6 Diploma in Advanced Risk and Crisis Management’
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One of the clearest cases of the connection between complexity and loss of organisational control was Railtrack, the company that was created after the privatisation of the railway system by the Conservative government in 1996. Formerly known as British Rail, the nature of the railway network was already extremely complex, with a high degree of inter-connectedness and mutual systems-dependency - (10,346 miles of track and signalling, 40,000 bridges and viaducts, 50 tunnels, 2,508 stations, 1500 signal boxes, 9000 level crossings). Although there were organisational problems with BR before the break-up, at least there was one organisation that was responsible for the entire system, and which had clear lines of responsibility for its maintenance and management.

After nationalisation, different section of BR were broken up into autonomous organisations, each responsible for a specific area of operations, and often developing a competitive or even adversarial relationship with other areas of operation. The trains and rolling stock were owned by three separate companies, that in turn leased them out to twenty-five different train operating companies. Railtrack owned the track, but its role was purely administrative. Responsibility for the maintenance of the track (a critical factor in the operation) was subcontracted to other companies, which although they were then tasked with the responsibility for the maintenance of the track, in turn subcontracted it out to other companies to actually deliver the work. Railtrack did not have its’ own engineering department, and did not have the technical knowledge within the company to oversee the maintenance work, or even to gauge whether it was being delivered effectively.

Another consequence of the break-up of BR was that rather than acting as a single entity with different divisions, each division acted in order to maximise its own profit and minimise any potential liability. This meant that the highly critical and immensely complex network of relationships between the new companies were controlled by detailed contracts, each of which tried to micro-manage extremely complex operations. There were 224 separate legal agreements covering freight contracts, and apportioning responsibility for delays was based on 1,900 checkpoints, 204 predefined delay causes, and 1,300 delay- attribution points. Railtrack employed fifty people just to account for delays in the Southern region alone. These contractual relationships led to increasingly bitter legal actions between the various companies, which in turn led to a break down in over-all service delivery.

Although the government still held nominal responsibility for overseeing the running of Railtrack, that was equally murky, with a raft of different organisations involved in the oversight, including the Office of Passenger Rail Franchising, the Office of the Rail Regulator, Her Majesty’s Railway Inspectorate, the British Railway Board, the Rail Passengers Council, and the Transport Secretary. It will be no surprise that rather than working cooperatively and collaboratively, these government agencies often saw each other as rivals for power and influence, and spent more time trying to out-maneuver each other than concentrating on the actual objectives.

The consequences of this organisational complexity became tragically clear on the morning of 17th October 2000, when an Intercity train travelling at 115 miles an hour was derailed near Hatfield, with the death of four passengers and over seventy injured. Subsequent enquiries found that the cause of the derailment was the failure to repair damaged tracks, despite the fact...
that the damage and potential consequences were known. The official review into the incident laid the blame for the accident squarely on the lack of clear responsibility for the management of the tracks. This accident led to massive disruption of national rail services (with an estimated loss to UK businesses of £6 million per day), and ultimately caused Railtrack to go into administration in 2002.

Reports