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## Safety Science

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## Business Process Reengineering of emergency management procedures: A case study

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### Abstract

The production and storage of dangerous substances in an industrial establishment creates risks for man, environment and properties in the surrounding area. Safety regulations require the establishment of a preventive information campaign regarding industrial risks and self-defence measures to adopt in an emergency situation. In the case of a major accident, people must be promptly made aware of the appropriate self-defence actions and behaviours to adopt. This strategic activity can reduce the panic effect, make citizens more cooperative and guarantee the effectiveness of any emergency plan. In this paper, the information chain is studied as an industrial process modelled by the IDEF0 language. Through this method, each link in the chain has been deeply analysed. For each function of the process, the inputs, outputs and necessary controls and resources have been identified. Starting from a clear view of the current state, the process of re-engineering has been implemented to minimise or eliminate downtime, deficiencies and illnesses and, thus, consequent time losses. The main contribution of the IDEF0 application in emergency management is to provide a clear view of the whole system, a communication system between emergency actors, a rich information source and a structured base for the re-engineering process.

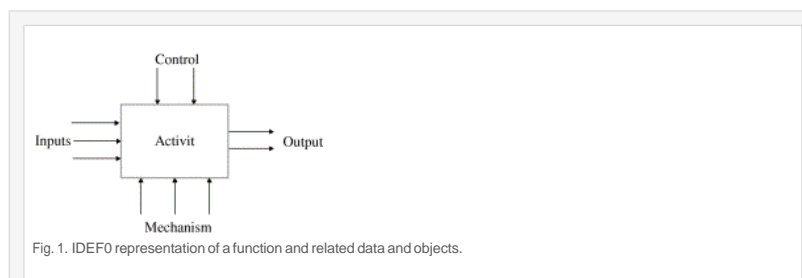
### Highlights

- We model the public information chain in an emergency using IDEF0.
- The method provides for the collection and representation of a great amount of data.
- The method provides a clear view of the whole emergency system and can be used by different actors.
- The method provides an effective communication instrument between diverse responsible parties.

### Keywords

Emergency management; IDEF0; Information system; Information supply; Risk information; Public; Safety management

### Figures and tables from this article:



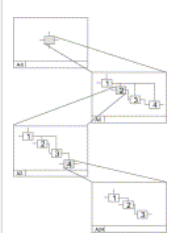


Fig. 2. Decomposition structure.

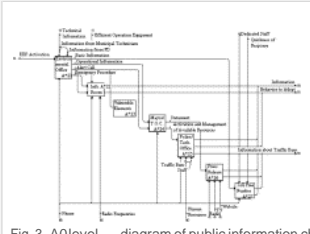


Fig. 3. A0 level \_ diagram of public information chain.

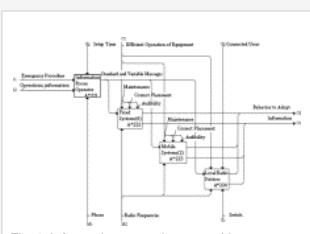


Fig. 4. Information room decomposition.

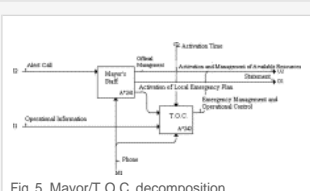


Fig. 5. Mayor/T.O.C. decomposition.

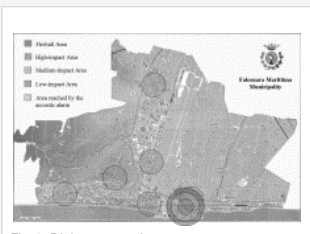


Fig. 6. Risk areas and coverage zones.

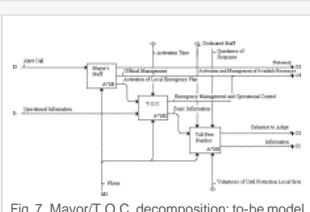


Fig. 7. Mayor/T.O.C. decomposition: to-be model.

