

A long term solution to the Swedish railway problem

A new learning tool for control room staff has been developed at Lund University. It was tested on a Swedish railway company and can provide a long term improvement of control rooms worldwide.

It is well known that the Swedish railway is facing big challenges. The trains are often delayed due to different kinds of disturbances. The headline: “Train Chaos!” is often occurring in Swedish press. The problems arise due to the increased number of travellers and poor maintenance of the railroads and infrastructure. This, together with frequent winter storms that collapse the railroad system, has led to a decreased confidence in railway as mean for transportation.

According to statistics gathered by one of the biggest train companies in Sweden, only 20 % of the delays are caused by train breakdowns and 75 % is caused by broken railway. Delays caused by weather can account for about 5 %. Nevertheless, it is the railway company’s responsibility to ensure that travellers reach their destinations and are taken care of when a delay occur. This can be a complex task, as passengers hop on and off on different stations. Moreover, some passengers may have connections to other destinations which can be easily broken with a delay.

To be able to take care of the passengers of delayed trains the train companies set up so called control rooms. The employees of the control room keeps track of the different trains and their passengers. Similar kinds of unpredictable problems arise in other types of control rooms. These kinds of working environments can be found at airports, nuclear power plants and big process plants. All of them are monitoring an unpredictable system and try to minimize the damage if anything goes wrong. It is hard to prepare for and learn from this kind of reactive environment. The authors were surprised to discover that people working in control rooms rarely know when they have done a good job and handled the situation in a good way.

In order to solve this problem a guide to creating a better learning environment in control rooms was made. The guide is based on current research on learning and feedback. The guide was successfully used by a Swedish railway company. The authors believe that the guide could, if used wisely, provide a long term improvement of control rooms worldwide.