

Developing resilient decision-making to improve safety in shared workplaces

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A study of decision-making in four safety-aware companies

All decisions made at work are potentially safety decisions. And everyone's work includes making decisions. In a study of four Finnish companies, three operating in the field of construction and one in logistics, called Decision-making in a resilient organisation – ResData, we have interviewed and carried out workshops with workers and managers about safety-critical decision-making. We also carried out a document analysis to find documentation or instructions on decision-making. The companies studied were very safety-aware and take safety into account when planning their processes and choosing their subcontractors. All employees and subcontractors are trained in safety and must pass an exam to be allowed into the construction site or other work facility. The goal of the study was to recognize who make decisions, who are involved in the decision-making, what information is used, who are informed and how the quality of the decisions is ensured. We also tried to pinpoint bottlenecks in the decision-making process.

Key findings

1. Decision-making was not a process that is clearly trained, documented or assessed in the companies.
2. In more difficult decisions, it was typical to involve a larger number of experts than in routine decisions.
3. Especially subcontractors were easily forgotten from the decision-making even if they had relevant knowledge or expertise.
4. In creating a response to an unexpected situation, it was typical to use the first idea that was thought of, and alternative ideas were sought only if the first idea did not work.
5. To improve decision-making, it would be useful to periodically assess the whole decision-making process.

Understanding the type of decision

In studying safety-related decision-making in ResData, we classified decisions into three types: routine, difficult and complex. The same decision could be in several categories depending on the width of its effects and sometimes depending on the position of the decision-maker in the company.

Routine decisions

Everyone at work makes decisions everyday. Directly safety-related decision can be to wear a helmet, close a gate, use a seatbelt, secure a bolt, follow safety instructions etc. Many of them are so routine, they are not even recognized as decisions. Generally, routine decisions are ones where there are prior knowledge and instructions for the course of action. The right choice and its results are known. Professionals use their education and experience to make these decisions. A very experienced worker will find more decisions simple routine decisions than a person new to the job.

Difficult decisions

A decision can be a difficult one even from start: having to apply new technology or implement a new process that have never been tried in practice before, require novel data-gathering and a careful consideration about who should be involved in the decision-making. Also, things don't always go as planned. Disruptions can transform routine decisions into difficult decisions. Disruptions can be caused by *events at the site*: errors in materials, delays in delivery times, shortage of raw materials, changes in personnel, *external events*: pandemic, extreme weather conditions or strong fluctuations in energy process, for example. Difficult decisions require understanding of the issue, skillful data-gathering, multiple ideas as to how to solve the situation and an understanding of criteria to select a solution. In our study, difficult decisions were recognized as ones relating to recruitment and staffing, selecting partners, adjusting processes, work methods and schedules. Maintaining safety culture also sometimes required difficult decision-making. Difficult decisions should always be assessed afterwards, both content and process.

Complex decisions

Complex decisions involve several interest groups and approaches and have an affect on the whole company or industry or area. There are typically no known right answers and often not even any solutions that would be easily acceptable to all. These decision, however, are rarely faced or made at a single work or construction site. They are more typical for headquarters and policy-makers. Complex decisions made elsewhere, however, can cause difficult decisions to be made at the worksite. When faced with a complex decision, it would be ideal to hear and negotiate with many interest groups and keep communication as open as possible.

Making difficult decisions

Understanding the decision-making process requires breaking it down to phases. Making making difficult decisions is seen mostly as the task of the managers and the most senior workers. The decision-making process of difficult decision is described in the picture below: narrowing down the question and understanding that the decision is a difficult one, collecting the right people and information to understand the issue better, creating several options to choose from, selecting an option, executing the decision and then assessing it.



Strengths in decision-making in shared workplaces

In the companies studied, the decision-making process was considered to happen in the sequence described above. Identifying the problem, collecting and analysing information, assessing the information, options and effects and implementing the decision were strengths in the process.

It is clear, that decisions are made and in a timely manner, based on thorough preparation and strong professional expertise. The decisions are communicated to those who immediately need the information and if the decision is found to be wrong, it can be easily changed to a better one.

For many disruptions, there are clear instructions on how to operate.

Areas of development in decision-making in shared workplaces

None of the companies studied presented material that would instruct how to make or document decisions. Rarely did any company stop to evaluate and learn from a difficult decision that had been made, unless there was a strong safety concern. Even in these cases, it was the outcome and not the decision-making process that was assessed. On some occasions when a difficult decision was assessed, it was assessed by different people than those who had been making the decision. This means that there was no process or place in the companies to **learn** to become better decision-makers. This implies, that 1) some decisions that are actually difficult decisions are made as routine decisions, 2) we cannot be sure whether the right people and all available information was used to make the decision - there is a very big risk that information especially from subcontractors is missed and 3) we do not know if a better solution could have been ideated at the spot. 4) It was also clear, that it was not customary to ideate several ideas and select the best from those.

Improving decision-making

