

The Second Step

Learning from Firefighters about Good Management

by Sebastian Deneff

Introduction

He manages a one-shot operation. Peoples' lives are at risk. Time is running out. He does not need to spend much thought on his objectives. The mission is crystal clear: Rescuing people and preventing further damage. Restoring order as quickly as possible. Failure is not an option. A commander at a fire station is responsible for resolving crises—and a firefighting operation is not only a physical fight against the forces of nature; it is also a challenge of how to manage an organization handling an emergency.

As Peter Drucker (2008: 72) points out, management is “the specific and distinguishing organ of any and all organizations.” Its central task is “to make people capable of joint performance, to make their strengths effective and their weaknesses irrelevant.” (2008: 10) In firefighting, effective strengths are crucial; any weakness may have substantial negative implications. Not only do commanders need to prevent harm from people and buildings, a successful operation also requires a motivated crew that is willing, without high financial incentives or bonuses, to work in places from which most other people run away. In this context, good management—in all the possible meanings of the word ‘good’—is essential.

Good management, however, is not to be defined universally. Peter Drucker (1998) says “there is no such thing as the one right organization” and that instead management needs to develop “the organizations that fits the task.” Consequently, we need to understand what it means for management to be in ‘good’ in a given context. We can then, as I will try, nevertheless, learn from and get inspired by a good management practice.

Studying Firefighting

Firefighters are a last resort; they are called when all other prevention systems have failed. Despite hazardous conditions, hostile environments that change dynamically and buildings full of toxic, hot smoke that greatly minimizes visibility and requires frontline firefighters to crawl on the floor, firefighters operate safely, at least most of the time. Their profession is rooted in long time experiences, it dates back to ancient Rome and Caesar Augustus (Kenlon 2008) and is now internationally trusted, ahead of any other profession (Hofmans and Eisenblätter 2010).

Despite its long history and most probably due to the fact that firefighting environments are largely inaccessible for non-firefighters, there are only very limited accounts of firefighting management practice. Karl Weick’s (1993) analysis of a firefighting incident that happened in 1949 has made its way into management studies. The firefighters he studied—college students who fought fire as a summer job—are, however, not to be confused with a professional, modern crew. Other people only take a look at high-level management strategies but do not add or connect this perspective to the part of the work that takes place on the frontline (e.g. Bigley and Roberts 2001).

During the past years, I have taken a deep dive into firefighters’ work. Two projects, focused on developing new computing technology to support firefighting, allowed me to work with the firefighters of Paris, France and Cologne, Germany. More than two dozen workshops, at fire stations and professional fire training facilities, allowed me to learn about this work.

The workshops included observations of training missions in buildings filled with artificial smoke and the introduction of new technology to existing routines, which sometimes disturbed the existing practice and thereby helped to reveal its inner workings.

During the workshops at the fire station, regular operations continued and firefighters sometimes had to leave for incoming alarm calls and returned to the workshop after finishing their mission—thereby drawing a close connection between the workshops and real-world incidents.

Additionally, I had the chance to experience this work hands-on. Together with professional firefighters, I performed trainings of reconnaissance and life-saving missions to locate and rescue victims and took part in heat training exercises, during which I entered buildings and tunnels where fire produces heat conditions similar to those in real-world interventions. I also had the opportunity to command, assisted by a professional, an entire simulated intervention. My company comprised a command vehicle, two pumpers, a turntable ladder and a total of 22 firemen out of which half were professionals.

Video and audio recordings, photos and notes helped me to capture the different workshops and supported my analysis. Following the method of grounded theory (Glaser and Strauss 1967), I have looked for discernable patterns in the data describing how firefighters manage their work, as I will show in the following.

Good Management?

Form a Rigid Structure and Define Procedures

So what would you expect from management practice of firefighting interventions? A command and control structure? Peter Drucker (1998) stated: “‘Hierarchy,’ and the unquestioning acceptance of it by everyone in the organization, is the only hope in crises.” And there is no question that a firefighting organization has a clear command structure.

Visual markings on the helmets and uniform leave no doubt about hierarchy. Arriving at the station for a shift, a firefighter signs up for a specific role. There is no minute of ambiguity about who is in charge. After all, an alarm can come at any moment.

For an incoming alarm, step-by-step instructions define procedures that are rehearsed over and over again. Woken up in the middle of the night, a commander has to know what he will do immediately after stepping out of the car. Step one: Gather information. Who is affected? Humans, animals, buildings, the environ-

ment? What causes the problem? Step two: Evaluate the situation. What are the priorities? Where is danger lurking? Do we attack, defense or retreat? Step three: Issue orders. "Attack team one. A life-saving mission with breathing apparatus. First C-hose. Third floor. Over the turntable ladder." This combination of structure and procedures allows firefighters to react promptly and decisively.

Good Management?

Leave Teams Independent

But what else is there? A closer look at the practice shows how the organization is able to deal with the uncertainty and uniqueness of an intervention.

Usually the operation starts on the basis of scarce or incomplete information. Consequently, the engaging team only receives a general objective before engaging the building. Inside buildings, firefighters work in small teams of two or three. The perceived situation in a burning building is so eminently unique that others cannot put themselves into the position of the individual working on the frontline. Frequent radio communication not only wastes precious air, it prevents firefighters from doing their work, as dealing with the radio is an extra task, and it also may prevent more important messages from getting through. Thus, passing the border of smoke, the frontline unit becomes isolated in hazardous environment.

While this isolation is a risk factor, it also provides firefighters room to improvise, to deviate from trained tactics, if necessary. This unit is the nucleus of a firefighting operation it provides space for situated innovation. To stay safe, the integrity of the unit is absolutely crucial. Firefighters continuously put effort in staying together and knowing about the other, a difficult task in this isolating environment. During the workshops, firefighters repeatedly stated: "the most important thing is that we two stay together." Splitting up a team is a "mortal sin."

Interestingly, Peter Drucker (1998: 158) adds to his sentence on hope in crises situation: "But what is the right organization to handle crisis is not the right organization for all tasks. Sometimes the team approach is the right answer."

Good Management?

Monitor to Ensure Support

And yes, there is control in firefighting. The hazardous and dynamic environment might put frontline firefighters into situations where they need immediate help. Those situations need to be recognized by the commander.

Before entering a building, firefighters leave a plastic tag at a control board. Outside the building, a firefighter is dedicated to monitor the board. He writes down the time at which the firefighter connects the breathing apparatus and the initial pressure of the compressed air cylinder. A standard bottle provides the firefighter air for about 30 minutes. After each 10 minutes the firefighter at the board requests the firefighters inside the building via radio to report their current pressure.

In addition to this procedure, commanders explain that they, when using a rope to mark the retreat path, monitor this rope to check the status of their on-site teams. Movement sensors attached to frontline firefighters trigger audible alarms when a firefighter is not moving.

All these means of monitoring ensure that the back-up team, which is always on stand-by, can be sent to the firefighters in need. For the frontline firefighter, knowing that there is somebody outside who monitors what is going on inside, who checks time and air pressure level, creates a trustworthy safety net. Monitoring becomes an instrument of mutual care.

Good Management?

Foresee the Future

And yes, as expected from a command and control structure, a commander, on-site, has to make a number of decisions. Some of them might seem trivial at first, but could have serious consequences in the future.

“Where to park the trucks?” might seem to be a simple question. A turntable ladder, however, is a heavy vehicle, once parked and supported, it cannot be moved. A good commander knows the equipment well, estimates distances and orders to park the turntable ladder at a place where as many as possible windows can be

accessed. After all, you cannot ask anybody to make a risky jump, 20 meters above ground.

The jump cushion provides another example. A compressed bottle of air takes about 60 seconds to fill the cushion. A good commander asks his crew to prepare the jump cushion out of sight of the window. After all, you cannot ask people in panic to wait another minute.

Firefighters continuously expect bad things to happen and take means to prevent them. Not only incident commanders apply this principle, every firefighter lives it. When opening doors, firefighters might change the air mix in a room. Suddenly letting oxygen float into a room might cause dangerous explosions. As a precaution, they feel the temperature of doors with their hands and use small impulses of water to cool down the rooms and to know about extremely high temperatures at the ceiling if the water evaporates immediately.

Good Management?

Develop Empathy and Act Responsibly

However, commanding does not stop with making good decisions. “Whoever claims authority thereby assumes responsibility,” writes Peter Drucker (1974: 279) and firefighters are very well aware.

A firefighter who leads a team inside a building said: “I am the team lead and I decide what happens in the fire,” and went on to describing this in detail: “[I will say:] Guys, only so far, make no further step. And in three more meters there lies somebody [who needs help]. Nevertheless, I say stop, as the thermal is too high. Then the person who lies there has bad luck and if anybody of the other two continues, he will get punched on the nose, as the team lead holds the responsibility for the engaging team. He also takes care that the team stays together. Imagine you go into some building [as a three man team] and all of a sudden you recognize that we are only two. I cannot look again into the eyes of the women, wives. We all know each other, after all.” On the one hand, as a leader, he is the person making the ultimate decisions for his team; on the other, he is responsible for the safety of his colleagues and takes into account their families.

For incident commanders, sending their colleagues into fire is never an easy decision. To stay in touch and develop empathy, commanders reported about taking the exercises that are required to work with a breathing apparatus to stay in touch, even though they themselves do not work on the frontline. In the workshops, high-ranked commander often took this hands-on approach. They quickly changed their dress uniform to protective clothing and were eager to work with their subordinates and try things themselves.

Their responsibility extends beyond interventions. Firefighters work in shifts that are much longer than typical office workdays. Being together day and night establishes a deep social bond between them. They frequently mention that their relation goes beyond the professional work they have to perform. The fire station becomes a second home; they will say “Let’s go home!” after completing an intervention. In this environment, a commander, for his subordinated team, is not only a superior firefighter, but also an advisor for issues of daily life. “I have many jobs here, sometimes I act as marriage counselor,” said a commander. The firefighting company forms a big family.

Learning from Firefighters: Creating Overall Balance

So what can we learn from this management practice? Copying individual strategies to other domains, certainly, is not straightforward. Firefighting takes place in a context and under conditions fairly different from daily experience.

Peter Drucker (1974: 39) said: “Organizing work according to its own logic is only the first step. The second and far more difficult one is making work suitable for human beings—and their logic is radically different from the logic of work.”

In firefighting, a rigid structure and stiff procedures are only the first step. The organization only gains its flexibility through independent units. Frontline firefighters not only need commands, they also need an open space to innovate when dealing with a hazardous, ever-changing environment. Monitoring is not only a means of control; it is an action of mutual care, it allows triggering support for teams in need. A commander not only gains credibility from making decisions that are sustainable, he also needs to take re-

sponsibility for his team, during interventions and for matters of private life. The management of firefighting interventions is only good when these different strategies balance each other.

And this is what we can learn from this look a firefighting practice: Good management goes the second step, it establishes an overall balance between control and openness, between long-term goals and the need for quick actions, between stiff hierarchies and mutual empathy.

About the Author

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References

- Bigley, G. and Roberts, K., The incident command system: High-reliability organizing for complex and volatile task environments. *Academy of Management Journal*, 2001: p. 1281-1299.
- Drucker, P.F., *Management: tasks, responsibilities, practices*. 1974, Butterworth-Heinemann: Oxford, UK.
- Drucker, P.F., Management's new paradigms. *Forbes Magazine*, 1998. 10.05.98.
- Drucker, P.F., *The essential Drucker: the best of sixty years of Peter Drucker's essential writings on management*. 2008, New York: Collins Business.
- Glaser, B.G. and Strauss, A., *The Discovery of Grounded Theory: Strategies for Qualitative Research*. 1967: Aldine Transaction.
- Hofmans, M. and Eisenblätter, M., *GfK-Vertrauensindex*. 2010, GfK Custom Research: Nürnberg.
- Kenlon, J., *Fires And Fire-Fighters; A History Of Modern Fire-Fighting With A Review Of Its Development From Earliest Times*. 2008: Young Press.
- Weick, K.E., The Collapse of Sensemaking in Organizations: The Mann Gulch Disaster. *Administrative Science Quarterly*, 1993. 38: p. 628-652.