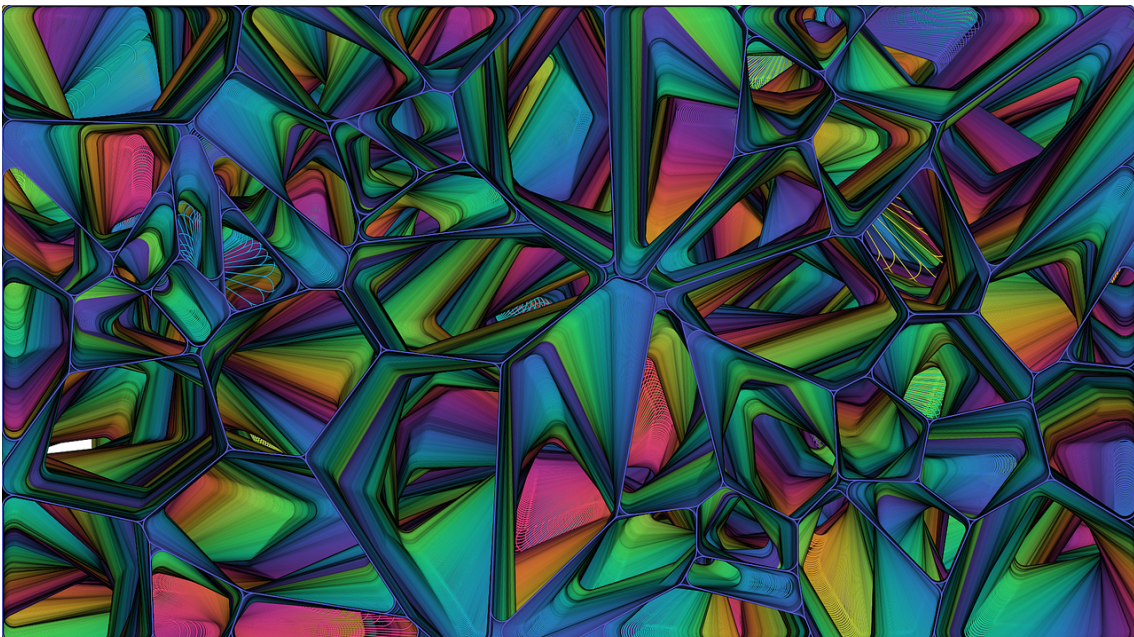# Organisations are not compliacated

Abstract
Organisations are complex adaptive systems. Therefore, they are not complicated. The distinction is important. Many management tools and models are based on an assumption that organisations are complicated and are therefore not very effective. Complexity is needed in order to solve complex problems. Complexity is therefore a good thing.

February 2019

The important distinction between complex and complicated

The reason why organisations are not complicated is simple. It is because they are complex. Yet, the design of organisation models and management tools often tend to be based on the assumption that organisations are complicated. This assumption is maybe not always explicit, it is just a necessity. The models and tools wouldn't work otherwise.

The complex is not complicated and the complicated is not complex. The distinction is important. The complicated is often difficult to understand but there is an order. The complicated can be understood by reductionism; by taking something apart in smaller pieces and study the parts. The whole is the sum of the parts. A complicated process is linear and the relationship between cause and effect does not change. A jumbo jet, a computer or a car are complicated things. It is possible to learn all details about these things (with hard work) and that will increase our understanding of them.

The complex exists in the area between order and chaos. Things do not happen by random even if it may appear like that. The complex cannot be understood by taking it apart. It requires instead a holistic view. The whole is larger than the sum of its parts. Complexity means that there is a dynamic. Things change, and the change will also change. The relationship between cause and effect can, and will, change over time. Something complex can only be understood as a whole, and by accepting and embracing the complexity.

A rainforest is a complex system. It is even a complex adaptive system. This means that it can evolve and react to changes. All human activities are in the form of complex adaptive systems. The economy is a complex adaptive system. So is the society as a whole (any society). And all organisations are complex adaptive systems.

Humans cannot only react to change and learn from it, we also have the power think about things that have not happened yet. We try to anticipate change. Therefore, we can adapt to changes that we think will occur. This increases the level of complexity in human systems, but it also increases something else. That is the ability to solve and handle problems.

Complexity is great

Complex adaptive systems are great at solving or handling complex problems. An ant colony is a complex adaptive system. Each individual ant cannot do much and no ant will ever be a member of Mensa. But as a colony, as a system consisting of individual actors making decisions based on the context, they can handle many different situations. Ants need to find food, build and repair the anthill, avoid or fight with enemies or competitors. The ant colony is responding to what is happening. They adapt, and they are a system consisting of many individuals working together with a common purpose.

An ant colony is therefore an organisation. It is a decentralised organisation because there are no bosses, no controllers and no reporting to the top. The queen lay eggs, she does not rule.

Decentralised decision-making is key. An example about a familiar traffic situation can explain this. Think about an intersection where you can go straight ahead, to the left or to the right. In order to make the traffic run smooth you can install traffic lights. This is a centralised solution; the drivers only need to follow the signs. It can work fine but it is a rigid structure. It cannot handle changes, for instance if another road is added to the intersection. Compare this to the situation where you instead of traffic lights build a round-about. This means that each driver must decide about when to enter the round-about, based on set rules. This is a decentralised solution. It can handle variation in traffic situations and number of joining roads more easily.

But some issues are best handled at central level. The round-about only works if everyone is following the same rules; rules that are decided on at central level.

Human organisations have both decentralised and centralised decision-making. This creates a capability to handle incredible complex problems. Think about a hospital or an airport. Many things are happening at the same time and many things really need to work. Unexpected things happen all the time. Yet, it works rather well most of the time. An important reason for this is that people have the capacity to adapt and do what is required in the moment something occurs. They know, mostly, what is important and what the main purpose is. Too much central steering and the organisation will lose its needed flexibility; too little central steering and the members of the organisation lose the purpose and direction that is needed for coordinated work. An organisation needs an appropriate mix of centralised and decentralised decision-making in order to handle complex problems. It needs complexity.

Very often I hear people saying that complexity must be reduced. They have a point. Unnecessary complexity should be reduced, but complexity per se should not be seen as the problem or as the enemy. Complexity is needed. With complexity comes uncertainty. It is impossible to control, or to know about, everything that is happening in a complex organisation. The efforts of reducing complexity is often an attempt to get rid of uncertainty. But it is not possible, and it is not desirable. Only a total complicated organisation can have no uncertainty, which means that it cannot solve complex problems. I would argue that all organisations have complex problems to solve.

Complex problem can only be handled by something complex. Variations need to be met by variation. With complexity and flexibility comes the uncertain. In complex adaptive systems unexpected things will happen. There are many unlikely things that can happen, and it is therefore likely that some of them will happen. It is therefore likely that something unlikely will happen. Expect the unexpected. This is more important than to try to eliminate all uncertainty. The enemy is therefore not complexity, it is the complicated and rigid.

The silver bullet is often just snake oil

Many tools and models that are designed to help organisations manage their business is based on an assumption that the reality is complicated. This means that everything can be understood and managed if you just do things in the right way. Better structures are seen as the solution to most problems. Follow the formula and everything will be ok. Anyone saying to you that all problems can be solved by just applying the model or following a number of set steps are selling you snake oil.

There are no fixed solutions to complex problems. There are no shortcuts. In order to handle complex problems, you need to understand the problems and the context. You need to learn, and you need to work hard. The solutions you identify will need to change over time and when you learn more. The models and tools are much more difficult to design and to sell if this is considered. They have to be based on the idea that the world is complicated (mostly). I don't think this is intentional fraud; I think the strong desire to understand the world and to find simple solutions makes us believe that the world is complicated. And the world is complicated, but it is mainly complex.

This does not mean that structures, tools or models are useless. They can be helpful if you have done your homework and really understand the matter at hand. I won't be a great carpenter just by buying the best tools. I need to study and learn the craft. When I have done that, then I know which tools to use and how to use them. Good tools help, but a skilful carpenter can do great things even with bad tools. And even with the best tools, situations will occur when the carpenter needs to improvise and use the tools in a way that they were not intended for.

Excellence is not achieved by the one that is searching for the optimal tool, excellence is achieved by the one that has truly mastered hers/his area and as a result creates hers/his own tools or are using the existing ones in innovative ways.

> *Questions or comments? Please contact:*
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This article was first published on LinkedIn 17 February 2019.