How To Use Systems Thinking In Real Life

ABSTRACT

This paper briefly looks at the views of Russell L. Ackoff and this advice on systems thinking and its applications in organisations.

1. Introduction

Russell Ackoff was a distinguished researcher and consultant, carrying out pioneering work in systems thinking. This paper looks at some of his views and contributions, touching on how they can be used to inform and reconcile Western and Eastern approaches to the management of problematic situations.

2. Why is systems thinking not used more?

Ackoff writes that he is often asked why more organisations don't use systems thinking The problem, he suggests, is that all through life we are taught that making mistakes is A Bad Thing. We learn through life that we need to conform and listen and behave and so, when we become adults, we are fearful to do anything without approval. Subordinates need to go up the chain and get their bosses buy in while bosses argue that they need to go down the chain and get their subordinates input. It sounds participative and inclusive but all too often paralyses organisations as they pass information between layers rather than taking action.

The problem comes down to how people are measured. Ackoff says that there are two kinds of errors — errors of commission and errors of omission. Errors of commission are when you do the wrong thing and errors of omission are when you don't do the right thing. Only the first kind of error is measured in organisations. If you put forward a budget and fail to deliver against it you are criticised.

What happens if you fail to make a decision — like changing your strategy to respond to the Internet? Nothing happens immediately. No alarm bells ring, no lights flash. It's only clear that a mistake has been made when it's too late and you've been leapfrogged by competitors.

So how do you make better decisions. Ackoff's prescription is prescriptive — record decisions and things associated with them, monitor them and learn from the record. I'm not sure this works in practice — people do not honestly record information that puts them in a bad light. We may have to look elsewhere for practical advice.

3. What is systems thinking anyway?

During a conference honouring his lifetime of work in the systems thinking field Vincent P. Barabba quotes Russ as saying, "...management should be directed at the interactions of the parts and not the actions of the parts taken separately."

This is because parts don't make things happen, systems do. Ackoff explains this in a talk, as paraphrased below.

> A system is a whole that consists of parts, each of which can affect its behaviour or its properties.'
>
> Each part of the system, when it affects the system, depends for its effect on some other part of the system. In other words, the parts are interdependent and interconnected.
>
> And so a system is a whole that cannot be divided into independent parts.
>
> This means that the essential or defining property of a system is a property of the whole that none of the parts have.

Ackoff explains that this is something absolutely fundamental that we need to understand. Take a car, for example. The fundamental property of a car is that it can take you from one place to another. No single part of a car can do that — the seats can't, the brakes can't, the engine can't. The engine, he says, can't even carry itself.

This has an immediate impact on the design of an organisation which is based on the idea that one part is more important than another. For example, that the CEO can make a difference, or

that the sales team has to be composed of superstars. The fact is that the sales team cannot deliver a service to customers — all they can make is a promise. The CEO cannot, all she can do is decide to allocate resources to the effort. The value that the customer gets is a property of the organisation as a whole, and emerges from all the parts working together — not from any one of them operating alone, something that is summed up in the old ditty that goes *for want of a nail, the kingdom was lost.*

The implication of this is that every part matters for the overall result, but perhaps some parts are more valuable than others. Perhaps there are more young people looking for their first role than CEOs with experience in turning around failing companies and so the latter are compensated more. Just like screws cost less than a 100 ton press. So, while the laws of supply and demand govern the price of the parts the result of their interaction creates the experience the customer or consumer has.

4. Why does systems thinking help?

When you go into the office or look around all the things you have to do at home what comes to mind? Do you think of all the issues you have to deal with and all the problems you have to solve? Or can you sit back and relax, read a good book, think, or take a nap? Most people would probably scoff at the idea that their days at work could be anything other than a series of challenges and incidents they have to solve. They may even feel strong and in control because they can solve any problem you can throw at them. Ackoff says, however, that the best thing you can do with a problem is not *solve* it but *dissolve* it. In other words change the system or change its environment so the problem doesn't happen anymore.

As I think through these concepts, and as you read them, it's not easy to fit them all together. It's not like making a tower of Lego bricks. As people we realise that we need to work with others but at the same time we don't want to lose our own identities — we want to feel like we are contributing something unique that is hard to replace. This is a hard thing to balance.

For example, if you read academic papers you might be struck by how much each one tries to come up with something original — a new framework, a new model — something that they can claim is unique and special. At the same time they have to build on the knowledge that has been created and published already. So, what should you rely on? The old stuff? The new stuff? A new version of the old stuff?

One approach is to throw your hands up and say "it depends." It depends on the situation and what you're trying to do. What is it, by the way, you're trying to do?

A system is something that exists in the here and now. For example, your organisation is a system that has an existence — it may even be recognised as a legal person. At the same time you have an idea in your head of what your organisation is — a conceptual model that explains what you think it does and why it exists. This model in your head may be, to you, the same as reality. It takes a little bit of effort to recognise it for what it is — a mental model that only exists in your mind. When you do that, however, you can play a little mental game. You can now construct a model of what your organisation should do. You can work out what the property of it should be, as a system. For example, if you run a leisure centre, you might see it as a system that allows people of all ages to participate in healthy individual or group activities in a safe and sociable setting. Once you have that model of what you want your organisation to be right now, you can then compare it to reality and ask if what you have is what you should have. If you don't — for example, if you have broken windows, or lighting that doesn't work then you know that you're not where you should be and you need to fix things.

Systems thinking, in other words, is a way of looking at the whole and then working your way to how the parts operate together to see what you can do to improve things. The way to think about this is that we need to develop the ability to work backwards. We need to start from where we want to be right now and figure out what needs to happen to make that a reality. The mistake many of us make is to think forward, to think of what should happen in the future. A focus instead of making the present better may help us think more clearly about what needs to happen next.

Surely that's the same thing, you say. Having goals and visions is what gets us to where we want to be? Well, it's not. and sometimes it can be downright dangerous to think like that. For example, let's say you set a goal to have an expensive luxury car. Is that what you need? From a systems point of view, what you need might be safe and comfortable transport, preferably in a vehicle that signals your status and

relative affluence. What happens when you get your fabulous car? Are you too scared to drive it in case it gets scratched? A year after you have it are you now unhappy because the neighbours have a newer and better model? Are you now struggling with managing your monthly expenses because of how much the car is costing you? The point is that you need to be careful what you wish for because you may get it.

5. West and East

Ackoff writes that the East has always been more focused on the whole rather than the parts. This is because the philosophy of reductionism, which originated with the ancient Greeks, pervaded the teachings of the West much more than the East. Reductionism has resulted in many fantastic things — scientific and technological progress beyond imagination. It has done many things right. Unfortunately, the things it does are perhaps the wrong things, and doing the wrong things righter simply makes them wronger. For example, the kind of technology that fuelled the growth of the West is going to destroy the planet if applied unchanged to the populations of the East. Systems thinking, in Ackoff's view, may bridge the gap between the reductionism of the West and the holism of the East, creating a new way of working that is more in harmony with the planet.

6. Conclusion

Thinking in systems is an unusual discipline, something that isn't taught to us in traditional curriculums. Even in an MBA programme, for instance, my exposure to it came from a chance remark from a lecturer that introduced me to the world of Soft Systems, not from any kind of formal introduction. Ackoff writes that the profession is quite introvert, writing for other members rather than for the world. This is a problem as well, because the first thing a systems thinker has to understand is that the system exists within an environment and it's purpose is often defined in respect to that environment.

But systems are nested within environments, which in turn are themselves systems within another environment, and ultimately we run out of words to explain that environment, which is why people perhaps had to invent the idea of god. Because that does help to put things in context. The Bhagavad Gita, for example, says, ''Whatever you do, whatever you eat, whatever you offer or give away, and whatever austerities you perform — do that, O son of Kunti, as an offering to Me.''

If we approach everything with a reductionist, scientific mindset, then we wouldn't do anything without evidence. But evidence is not always easy to find, it's not always clear cut and it's not always timely. The right thing, however, is often quite easy to see — but one may need a reason that goes beyond the obvious to take the right action. Maybe that's where the idea of an almighty may be convenient to create.

In summary, thinking in terms of parts has been very useful. Thinking in terms of wholes can be equally useful as well. But thinking in terms of values can help us design the parts and the whole to best serve the right purpose.

About the author

Karthik Suresh is a Management Consultant who helps customers with energy, utility, sustainability, research, innovation and knowledge management projects. His experience includes working with large and small organisations to select and implement strategic decision systems, improve and develop management capability and deploy risk management, IT, communications and information systems projects.

Please feel free to connect on LinkedIn or read more at www.karthik-suresh.com