

## 2 Iceberg Model

[https://www.youtube.com/watch?v=Te1VYXqUH\\_c&t=3s](https://www.youtube.com/watch?v=Te1VYXqUH_c&t=3s)

### “Viewer-friendly” Transcript

<u>Time</u>	<u>Content</u>
00:00	Systems Innovation: Iceberg Model
00:01	There are a few basic models that are very helpful for thinking about system change. One of the most popular of these is what is called the Iceberg Model.
00:12	The Iceberg Model tries to illustrate the various levels of abstraction to a situation or organization, from the observable events, to underlying patterns that generate these, to the supporting structure, and ultimately the mental models used by an organization.
00:27	The Iceberg Model helps individuals and organizations to expand their perception of a situation to see it within the context of the whole system and not limit themselves to looking at just a single activity or event.
00:41	It is designed to help people to step back and identify the different patterns that the event is part of, the possible structures that might be causing it to occur, and finally the model that is creating those structures.
00:52	An iceberg is used as an analogy to represent the underlying structures generating perceived events and issues as it is known to have only ten percent of its total mass above the water while ninety percent of it is under water
01:07	The expression tip of the iceberg is used to connote that what one can see is only a small part of a whole situation - i.e. there is much more below the surface and what it looks like may be surprising.
01:20	Just like with an iceberg, a large percentage of what is going on in our world is hidden from view and the Iceberg Model tries to make this explicit by depicting it as a series of layers that sit beneath the everyday phenomena observed.
01:34	The Iceberg Model argues that events and patterns which are observable are caused by systemic structures and mental models which are often hidden.
01:44	A fundamental systems-thinking concept is that different people in the same structure will produce similar results. That is to say, structure causes 80 to 90% of all issues - not so much the people.
01:57	Thus to understand behaviors we must first identify and then understand the systemic structures and underlying mental models that cause them.
02:07	The Iceberg Model typically identifies four basic levels to situations. <ul style="list-style-type: none"><li>• Events which represent the manifest components and actions observable to us</li><li>• The patterns of behavior beneath this describes trends over time</li><li>• System structure describes how the parts are interrelated to influence the patterns</li></ul>

- Finally the mental models that support everything else in the system through a set of beliefs, values, and assumptions shaping people's perception

- 02:36 The one-minute snapshot of a Current Affair that we might see in the evening news is an example of an event within the Iceberg Model.
- 02:44 Above the waterline are the events. Events are markers in time where multiple variables are observed. They are the what's happened or what we saw. They are discrete activities or facts about the state of things in the system - like catching a fish.
- 02:58 If we apply the Iceberg Model to global issues we could say that at the tip, above the water, are events or things that we see or hear about happening in the world every day. That there is a new president in Italy or that the price of commodities is up. The events that we hear about in the news represent the iceberg tip.
- 03:18 Most of the world spends its time at the event level. It is how we perceive the world while being occupied with our daily activities.
- 03:27 Patterns are the changes and variables that occur over time. They are the trends that we perceive taking place over time.
- 03:34 If we look just below the water line, we often start to see patterns or the recurrence of events. This might be, for example, recurring oil spills or one's computer periodically breaking down.
- 03:46 Patterns are important to identify because they indicate that an event is not an isolated incident. Patterns answer the questions "What's been happening?" or "What's changing?"
- 03:57 When we make a statement like "It seems to be getting warmer in winter" or "The price of gas is going down," these are patterns that we are observing - a series of relationships between events.
- 04:08 When we get to the pattern level we can anticipate, plan, and forecast. It allows us to adapt to problems so we can react more effectively to them.
- 04:19 The structure supports, creates, and influences the patterns we see in the events. Structures can be understood as the rules of the game. They can be written or unwritten. They can be physical and visible or invisible. They are rules, norms, policies, guidelines, power structures, distribution of resources, or informal ways of work that have been tacitly or explicitly institutionalized. They answer the question "What might explain these patterns?"
- 04:50 It may not be easy to see the structure, but the patterns we can see tell us that the structure must be there.
- 04:56 Structures are composed of cause-and-effect relationships. These are connections between patterns.

- 05:02 For example, a farmer might say “If I increase the number of cows, I will get more milk.” She is saying there is a connection between an increasing number of cows - a pattern and an increasing amount of milk - another pattern.
- 05:14 Or, for example, the underlying structure of a problem such as recurring oil spills might be our dependence on fossil fuels. But if you look at the root cause of such spills you can start to understand and address long-term sustainable solutions, such as developing alternative energy sources that do not rely on oil shipment.
- 05:36 The mental model used to perceive the world is ultimately what generates the structures, patterns, and events. Below the structures are the mental models. These define the thinking that creates the structures that then manifest themselves in the patterns of events.
- 05:53 Mental models are people's deeply held assumptions and beliefs that ultimately drive behavior.
- 05:57 There is typically not just one pattern or structure or mental model at play. There can be many. Mental models are the attitudes, beliefs, morals, expectations, values, or culture that allow structures to continue functioning as they are.
- 06:13 These are the beliefs that we often learn subconsciously from our society or family, and are likely unaware of.
- 06:21 Mental models are ultimately what keep the structure doing what it does. They are the thoughts and processes of reasoning that need to exist to cause the structure to be the way it is.
- 06:31 These ideas exist in the minds of the structure's stakeholders - the people who set up the structure or those that play a role in the way it operates.
- 06:40 Mental models are typically difficult to identify in that they engender many assumptions that are never made explicit.
- 06:48 An example of the Iceberg Model may be seen in one's own health. Catching a cold would be an event. Catching colds more often when we are tired is a pattern.
- 06:58 The systemic structures or causes for getting tired might include lack of rest from excessive work which might in turn be a product of a mental model surrounding our identity as a hardworking person.
- 07:09 One tends to get caught up in the immediate event of suffering from a cold and typically forgets that it is part of a pattern of events that is caused by the underlying structures of our lifestyle and perception.
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