



System Thinking: *An Introduction*

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Systems Are All Around Us

A somewhat academic air has surrounded the subject of systems, as if it were hard for us regular people to understand. The very word “system” may conjure up mathematicians, engineers and yes, those IT folks, filling up blackboards with squiggly formulas. In fact the opposite is true. System thinking is practical—and systems are all around us.

Is A Pile of Building Materials the Same Thing As A House?

First, let’s take a look at a little history. For many centuries scientists believed that the best way to learn more about something they didn’t understand was to take it apart and study each part separately. This approach was successful and allowed scientist to gain knowledge through *analysis*.

However, taking this to the extreme is called “reductionism” —the idea that something is nothing but sum of its parts. This would be like considering a pile of building materials being the same thing as a house. Most scientists realized that it was important to understand how the pieces fit together, at least in their own field, but they were still concerned with the parts. This resulted in sciences becoming very specialized because the basic units of each science are so different. Eventually, scientists in different fields could no longer understand each other and the public couldn’t understand any of them without years of study.

In the 1920’s, a group of researchers began to make a serious study of the patterns themselves, the ways in which all different kinds of “systems” were organized. And they made a startling discovery: no matter how different the ingredients of different systems looked, they were all put together according to the same general rules of organization. Finally, there was a way of linking together all of the scattered fields of knowledge and showing what they had in common.

This new field, which is known as “general systems theory” had a powerful impact immediately. Since then, the theory has influenced a variety of fields including business, economics, and politics and revolutionized many fields of science. Peter’s Senge’s *The Fifth Discipline* (Doubleday, 1994) has contributed greatly toward popularizing the concept of “Systems Thinking”.

A Pile of Dirt is a Heap a Compost Pile is a System

To first understand “System Thinking”, we need to define what a system is. *A system is a collection of parts, which interact with each other to function as a whole.* The key word in the definition is interact. If the parts are not interacting, and it does not matter how they are arranged, you have a *heap*. A pile of dirt is a heap. A compost pile is a system.

Where ever we look there are systems. We are made of cells, which in turn build into organ systems, under the control of the nervous system. We are part of our family systems, which in turn is a part of a local community, which joins other communities to form cities, states, and countries.

To Infinity and Beyond

Systems thinking looks at the whole and the parts, and the connections between the parts, studying the whole in order to understand the parts. Say, what? Read on. Systems thinking is seeing beyond what appear to be isolated and independent incidents to deeper patterns. Systems thinking enables us to see the long-term consequences of our actions, to expect side effects, to view the whole, rather than just the parts, and to identify interrelationships and their importance.

What are the benefits of systems thinking?

- You will be able to gain influence over your life by seeing patterns that drive events. This means you will have more control over your health, your work, your finances and your relationships. You will be able to predict events and prepare for them rather than be helpless.
- You will have more effective ways of dealing with problems and better thinking strategies. Not only will you solve problems, but you will also be able to change the thinking that led to the problem in the first place.
- You will be able to see with a wider and different perspective. Obvious explanations and majority views are not always right. With a systems perspective, you can see what is happening and then take actions that you know will be best in the long run.

About the Author

Karen Meason earned her Bachelor of Science in Business Management from the University of Tulsa and Master of Science in Human Resource Development from Oklahoma State University. Karen has served as an adjunct instructor for the Tulsa Technology Center, a human resource consultant, and a presenter on Human Resources issues to a variety of organizations. Karen Meason is the Manager of Human Resources and Learning and Development functions for the Long Term Care Authority of Tulsa. Contact her at kmeason@ltca.org

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