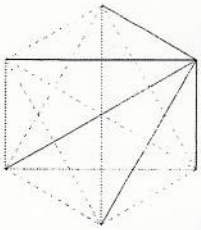


Customer needs are satisfied through purposeful activities, or **SYSTEMS.**

"System thinking is the discipline of seeing wholes."[3]

1. **A system is a set of related entities that receives inputs, adds value to them, and produces outputs to achieve a defined system purpose, mission or aim.**[4]

Systems are planned combinations of resources and methods to fulfill a purpose.

Any organization is a system with a purpose anchored in customer needs.

The organization itself is a subsystem of the larger systems to which it belongs.

Once the organization is in place, many people stop thinking of it as a system. They tend to separate its functions into departments that can become short-sighted and self-centered. People in the departments may begin to focus more on the department than on the organization's purpose.

2. **Organizations/enterprises are made up of interrelated subsystems.**

The purposeful activity of the organization as a whole is a system.

The purposeful activities within the organization are systems as well; they are subsystems of the larger system.

The organization itself is a subsystem of the larger system to which it belongs. Subsystems are subject to the same forces as the system to which they belong. Regardless of size, subsystems obey the same rules of nature. As a result, the same ways of improving, studying, and changing small systems work for larger ones.

[3]Peter M. Senge, *The Fifth Discipline*. (New York, NY: Doubleday, 1990), p. 68.
[4]Gerald Nadler and Shozo Hibino, *Breakthrough Thinking*, (Rocklin, CA: Prima Publishing and Communications, 1990), p. 163.

3. **All systems are subject to interaction and suboptimization.**

The subsystems in an organization interact and are interrelated. The performance of any one subsystem can be understood only in terms of other related systems.

Failure to recognize the interaction results in attempts to optimize each subsystem rather than the system as a whole; this is called suboptimization.

Suboptimization creates a win/lose situation within the system and the system as a whole suffers.

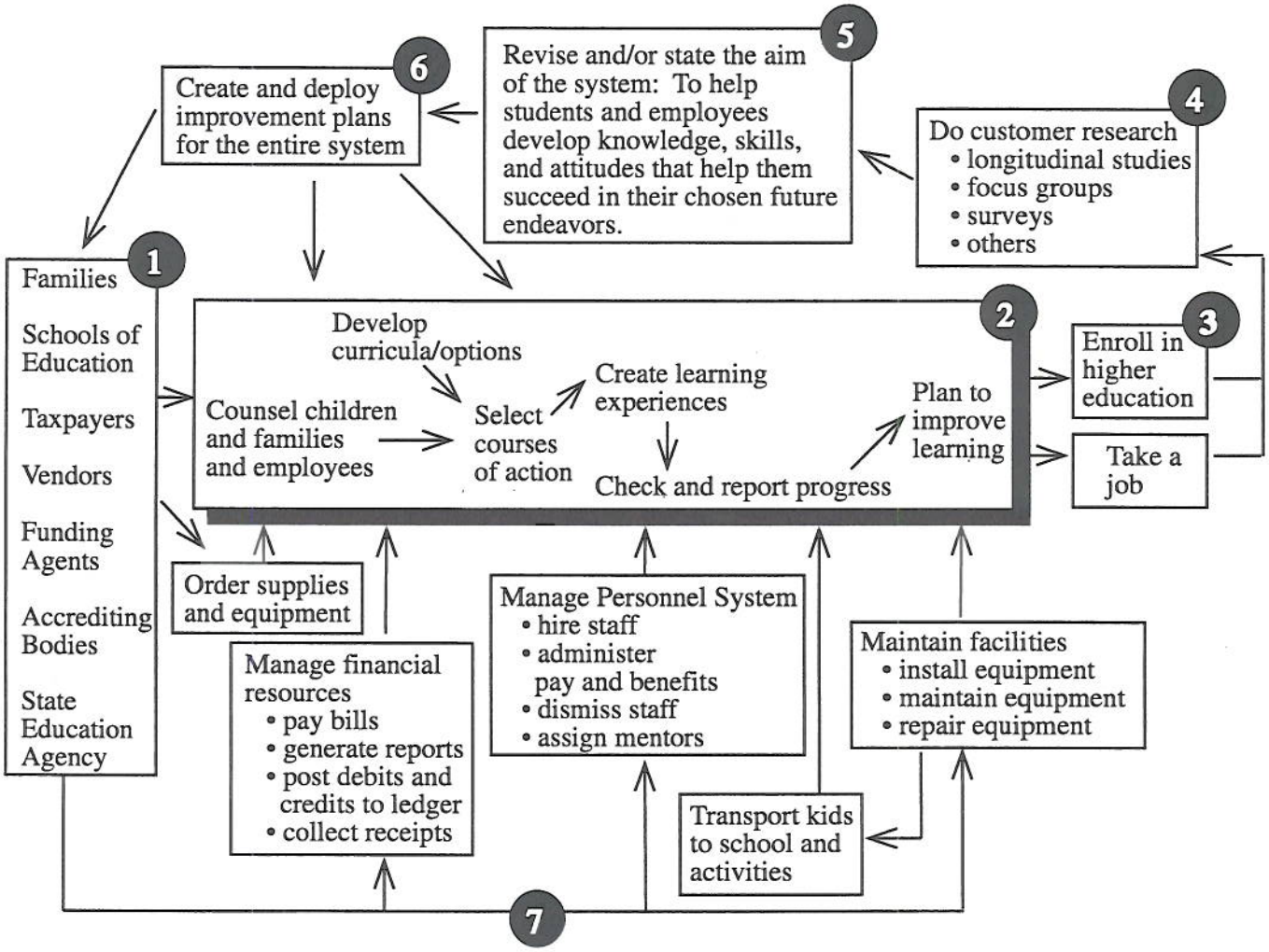
4. **All systems have common characteristics.**

System Characteristic	Definition	Answers the Question...
Purpose	Aim, mission, primary concern	Why does the system exist?
Output	Products and services	What does the system produce to achieve its purpose?
Resources	Physical, financial, and human requirements	What is required to produce products and services?
Process	Sequence of events	What steps are required to transform resources to output?

THE SYSTEMS PRINCIPLE ILLUSTRATED

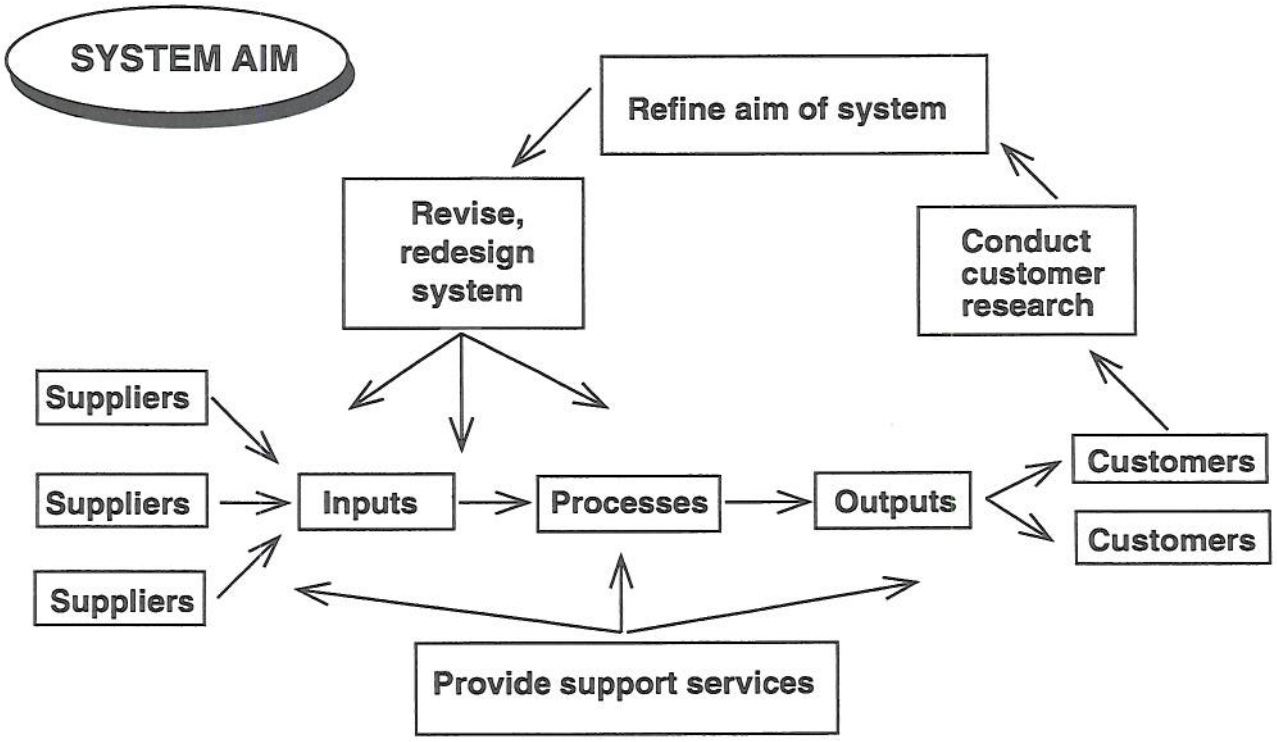
HOMETOWN SCHOOLS SYSTEM MAP

The System Map shows how all aspects of the district work together–who depends on whom. The map is based on the template provided on the following page.



1-7: These numbers correspond to the steps in the template on the following page

DR. DEMING'S "ORGANIZATION VIEWED AS A SYSTEM"



Leddick, PKR, 1993. Adapted from Figure 1, page 4 of *Out of the Crisis.*

OUR SYSTEM MAP

Using the same template that Hometown Schools used, create your own system map.

Refer to these steps:

1. List suppliers.
2. Brainstorm critical processes in the teaching/learning subsystem. Use verb phrases. Connect them with arrows to show flow.
3. List what students do as they leave the school system you are mapping.
4. List methods of customer research used.
5. State the mission or aim of the system.
6. Brainstorm critical processes in the improvement planning subsystem. Use verb phrases.
7. Brainstorm and group key support processes. Connect with arrows to show connection or dependencies.