Systems



Organizations can be viewed as systems. Rapaport cited in Begley defines a system as an "entity which can maintain some organization in the face of change from within or without." (Begley, 1999, para. 4) Ryan cited in Begley defines a system as "a set of objects or elements in interaction to achieve a specific goal." (Begley, 1999, para. 5)

According to Wikipedia, a system is an assemblage of inter-related elements comprising a unified whole. From the Latin and Greek, the term " system" meant to combine, to set up, to place together. A sub-system is a system which is part of another system. A system typically consists of components (or elements) which are connected together in order to facilitate the flow of information, matter or energy. (Wikipedia, n. d., para. 1)

Thus a system is anything that has parts. A system is a structure of subsystems, every system being embedded in a larger system.

A typical manufacturing organization is a system, because it has a structure.

Usually an organization consists of parts, which also consist of parts. These parts of the organization are called subsystems.

Common elements of a typical manufacturing organization are:

Input - raw materials.

Output - finished commodity.

Throughput or Process - manufacturing.

Feedback - customers' feedback.

Control - quality assurance department.

Environment - a state, location, city where the organization is situated.

Goal - to produce goods and to get profit.

There are also following specific subsystems within a typical manufacturing organization:

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Human resources

Equipment

Buildings

Workflows

Finances

These subsystems in their turn could be broken by parts.

Human resources consist of CEO, top management, officers, workers (if any).

Every person consists of a head, arms, legs, trunk, suit and a tie (if any); so it also can be called a system.

Equipment consists of lathes, production lines, computers, printers,

scanners, coffee-machine and so on. Each piece of the equipment in its turn

is a complex mechanism that consists of parts, so it also is a system.

Buildings in a typical manufacturing organization consist of workshops,

floors, windows and elevators, so they are systems also. Every room inside

every building can be broken by parts also, so it also is a system.

An organizational workflow is also a system, because it consists of such parts

as time and financial indicators and appointed resources. Moreover, each

workflow has one more division: by inception phase, elaboration phase,

construction phase and transition phase. (Kroll and Kruchten, 2003, p. 8) So

the workflow as a system can be described in two dimensions.

Finances are also a system consisting of debit, credit, income, costs, profit

and other indicators.

An open system can be influenced by events outside of the declared

boundaries of a system. A closed system is self-contained: outside events

can have no influence upon the system. Dynamic systems have components

or flows or both, that change over time. (Wikipedia, n. d., para. 5)

According to this, a typical manufacturing organization is an open and dynamic system.

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